SUPPLEMENTAL RESTRAINT SYSTEM (SRS) (If HVAC maintenance is required)

The Ridgeline SRS includes a driver's airbag in the steering wheel hub, a passenger's airbag in the dashboard above the glove box, seat belt tensioners in the front seat belt retractors, side curtain airbags in the sides of the roof, and side airbags in the front seat-backs. Information necessary to safely service the SRS is included in this Service Manual. Items marked with an asterisk (*) on the contents page include or are located near SRS components. Servicing, disassembling, or replacing these items requires special precautions and tools, and should be done by an authorized Honda dealer.

- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal or side collision, all SRS service work should be done by an authorized Honda dealer.
- Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional deployment of the airbags and/or side airbags.
- Do not bump or impact the SRS unit, front impact sensors, or side impact sensors when the ignition switch is ON (II), or for at least 3 minutes after the ignition switch is turned OFF; otherwise, the system may fail in a collision, or the airbags may deploy.
- SRS electrical connectors are identified by yellow color coding. Related components are located in the steering column, front console, dashboard, dashboard lower panel, in the dashboard above the glove box, in the front seats, in the roof side, and around the floor. Do not use electrical test equipment on these circuits.

HVAC (Heating, Ventilation, and Air Conditioning)

HVAC (Heating, Ventilation, and Air Conditioning)

Special Tools 21-2

Heating/Air Conditioning

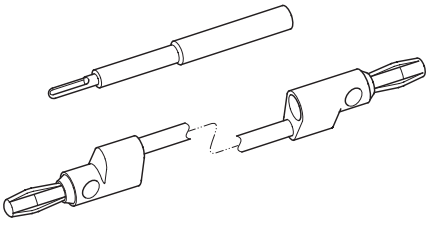
Component Location Index 21-3
A/C Service Tips and Precautions 21-6
A/C Refrigerant Oil Replacement 21-6
A/C Line Replacement 21-7
General Troubleshooting Information 21-8
DTC Troubleshooting Index 21-11
Symptom Troubleshooting Index 21-12
System Description 21-13
Circuit Diagram 21-18
DTC Troubleshooting 21-20
Recirculation Control Motor Circuit Troubleshooting 21-37
HVAC Control Power and Ground Circuit Troubleshooting 21-39
Radiator and A/C Condenser Fan Low Speed Circuit Troubleshooting 21-40
A/C Condenser Fan High Speed Circuit Troubleshooting 21-44
Radiator and A/C Condenser Fan High Speed Circuit Troubleshooting 21-46
A/C Compressor Clutch Circuit Troubleshooting 21-47
A/C Pressure Switch Circuit Troubleshooting 21-49
Outside Air Temperature Sensor Test 21-52
Outside Air Temperature Sensor Replacement 21-52
Evaporator Temperature Sensor Test 21-53
Evaporator Temperature Sensor Replacement 21-53
Power Transistor Test 21-54
Air Mix Control Motor Test 21-55
Air Mix Control Motor Replacement 21-55
Mode Control Motor Test 21-56
Mode Control Motor Replacement 21-56
Recirculation Control Motor Test 21-57
Recirculation Control Motor Replacement 21-57
HVAC Control Unit Removal/Installation 21-58
Dust and Pollen Filter Replacement 21-58
Blower Unit Removal/Installation 21-59
Blower Unit Component Replacement 21-60
Evaporator Core Replacement 21-60
* Heater Unit/Core Replacement 21-62
Heater Valve Cable Adjustment 21-65
A/C Compressor Replacement 21-66
A/C Compressor Clutch Check 21-68
A/C Compressor Clutch Overhaul 21-69
A/C Compressor Relief Valve Replacement 21-70
A/C Condenser Replacement 21-70
Receiver/Dryer Desiccant Replacement 21-72
Refrigerant Recovery 21-73
System Evacuation 21-74
System Charging 21-75
Refrigerant Leak Test 21-76
A/C System Test 21-77

Climate Control

Component Location Index 21-80
General Troubleshooting Information 21-83
DTC Troubleshooting Index 21-88
Symptom Troubleshooting Index 21-89
System Description 21-90
Circuit Diagram 21-98
DTC Troubleshooting 21-100
Recirculation Control Motor Circuit Troubleshooting 21-126
Navigation Communication Line Circuit Troubleshooting 21-128
Climate Control Power and Ground Circuit Troubleshooting 21-129
A/C Pressure Switch Circuit Troubleshooting 21-130
In-car Temperature Sensor Test 21-133
In-car Temperature Sensor Replacement 21-133
Sunlight Sensor Test 21-134
Sunlight Sensor Replacement 21-134
Driver's Air Mix Control Motor Test 21-135
Driver's Air Mix Control Motor Replacement 21-135
Passenger's Air Mix Control Motor Test 21-136
Passenger's Air Mix Control Motor Replacement 21-137
Climate Control Unit Removal/Installation 21-137

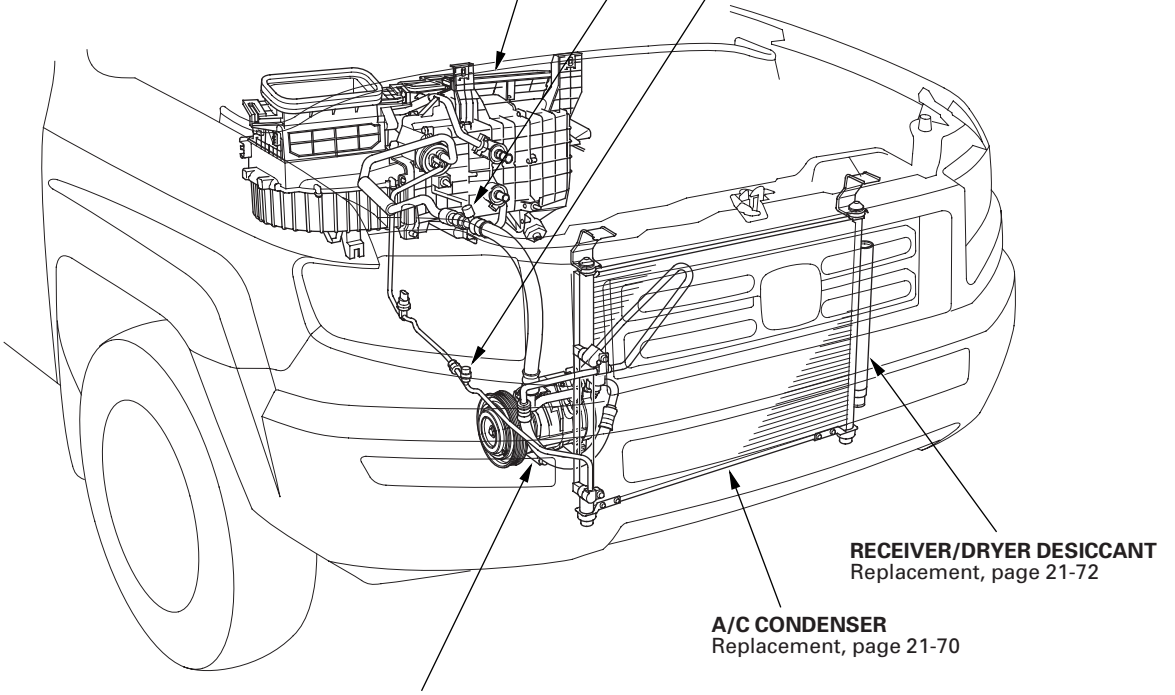
Special Tools

Ref. No.	Tool Number	Description	Qty
①	07SAZ-001000A	Backprobe Set	2



①

Component Location Index



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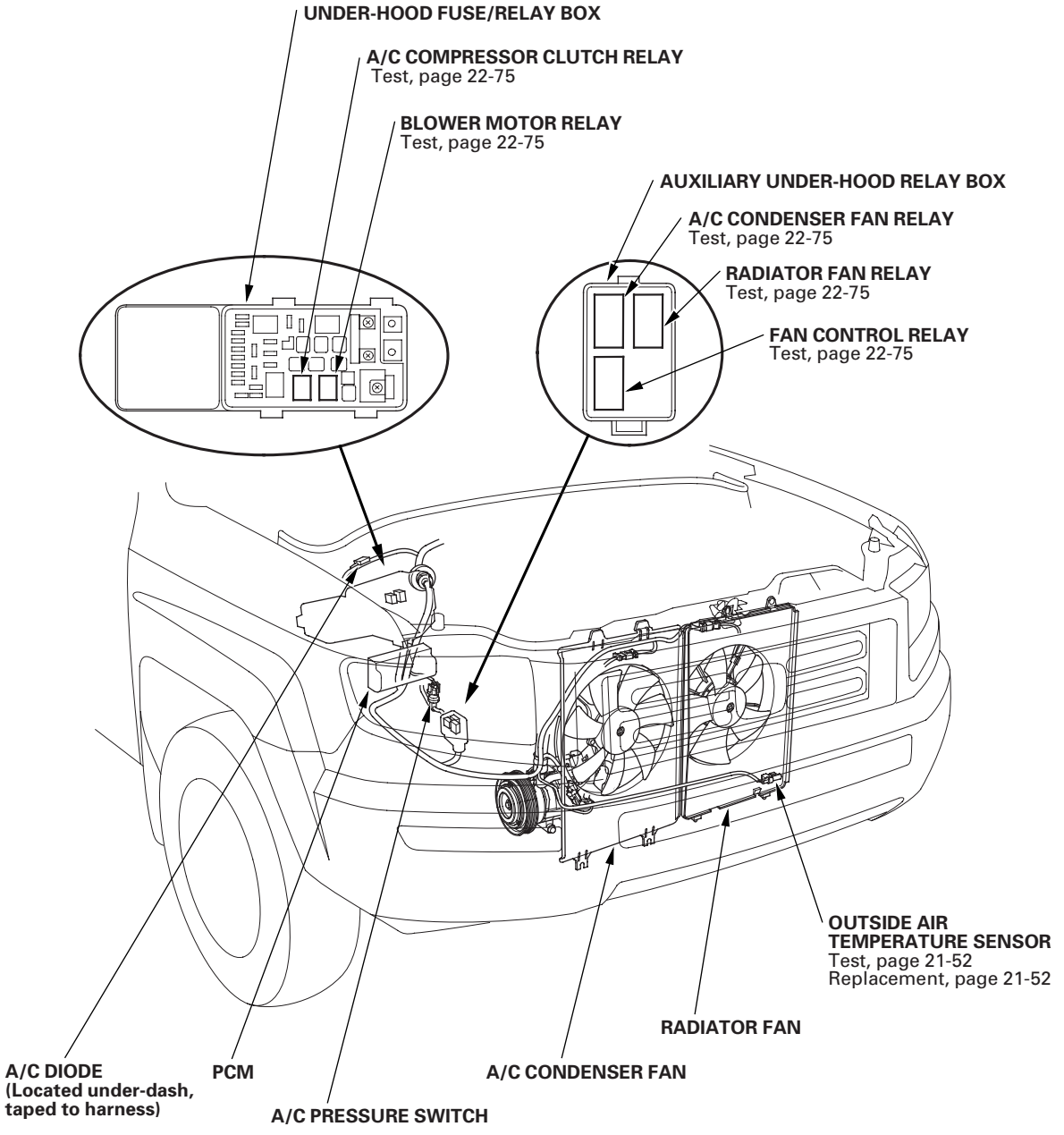
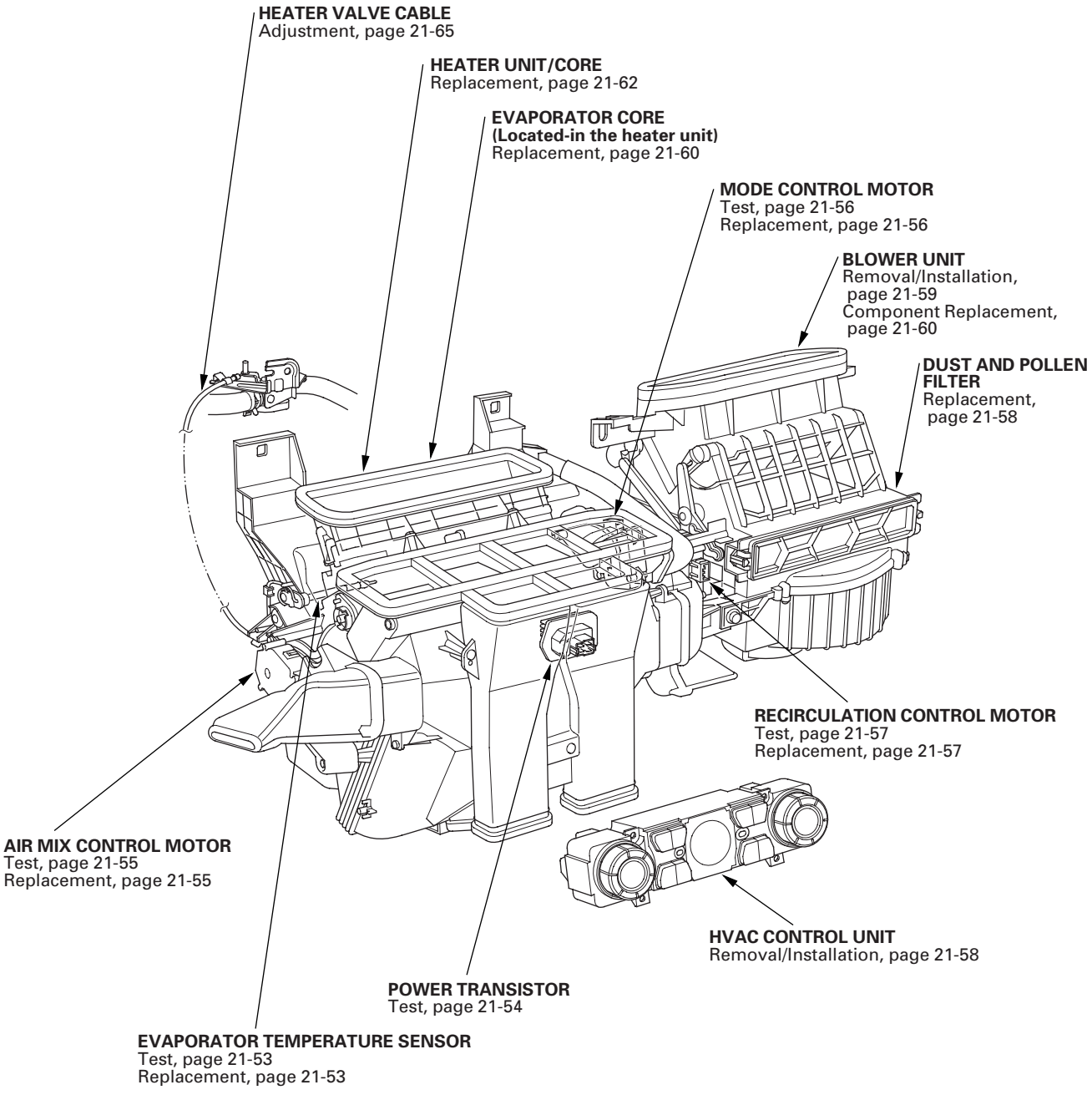
Component Location Index (cont'd)




HEATER VALVE CABLE
Adjustment, page 21-65
HEATER UNIT/CORE
Replacement, page 21-62
EVAPORATOR CORE
(Located-in the heater unit)
Replacement, page 21-60
MODE CONTROL MOTOR
Test, page 21-56
Replacement, page 21-56
BLOWER UNIT
Removal/Installation, page 21-59
Component Replacement, page 21-60
DUST AND POLLEN FILTER
Replacement, page 21-58
RECIRCULATION CONTROL MOTOR
Test, page 21-57
Replacement, page 21-57
AIR MIX CONTROL MOTOR
Test, page 21-55
Replacement, page 21-55
HVAC CONTROL UNIT
Removal/Installation, page 21-58
POWER TRANSISTOR
Test, page 21-54
EVAPORATOR TEMPERATURE SENSOR
Test, page 21-53
Replacement, page 21-53

A/C Service Tips and Precautions

⚠ WARNING

- Compressed air mixed with the R-134a forms a combustible vapor.
- The vapor can burn or explode causing serious injury.
- Never use compressed air to pressure test R-134a service equipment or vehicle air conditioning systems.

⚠ CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

The air conditioning system uses HFC-134a (R-134a) refrigerant and polyalkyleneglycol (PAG) refrigerant oil, which are not compatible with CFC-12 (R-12) refrigerant and mineral oil. Do not use R-12 refrigerant or mineral oil in this system, and do not attempt to use R-12 servicing equipment; damage to the air conditioning system or your servicing equipment will result.
Use only service equipment that is U.L.-listed and is certified to meet the requirements of SAE J2210 to remove R-134a from the air conditioning system.

If accidental system discharge occurs, ventilate the work area before resuming service.

R-134a service equipment or vehicle air conditioning systems should not be pressure tested or leak tested with compressed air.

Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

- Always disconnect the negative cable from the battery whenever replacing air conditioning parts.
- Keep moisture and dirt out of the system. When disconnecting any lines, plug or cap the fittings immediately; don't remove the caps or plugs until just before you reconnect each line.
- Before connecting any hose or line, apply a few drops of refrigerant oil to the O-ring.
- When tightening or loosening a fitting, use a second wrench to support the matching fitting.
- When discharging the system, use an R-134a refrigerant recovery/recycling/charging station; don't release refrigerant into the atmosphere.

A/C Refrigerant Oil Replacement

Recommended PAG oil: DENSO ND-OIL 8

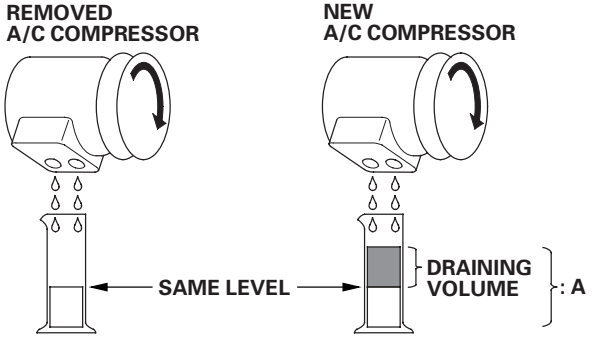
- P/N 38897-PR7-A01AH: 120 mL (4 fl·oz)
- P/N 38899-PR7-A01: 40 mL (1 1/3 fl·oz)

Add the recommended refrigerant oil in the amount listed if you replace any of the following parts.

- To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
- Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
- Do not spill the refrigerant oil on the vehicle; it may damage the paint; if it gets on the paint, wash it off immediately.

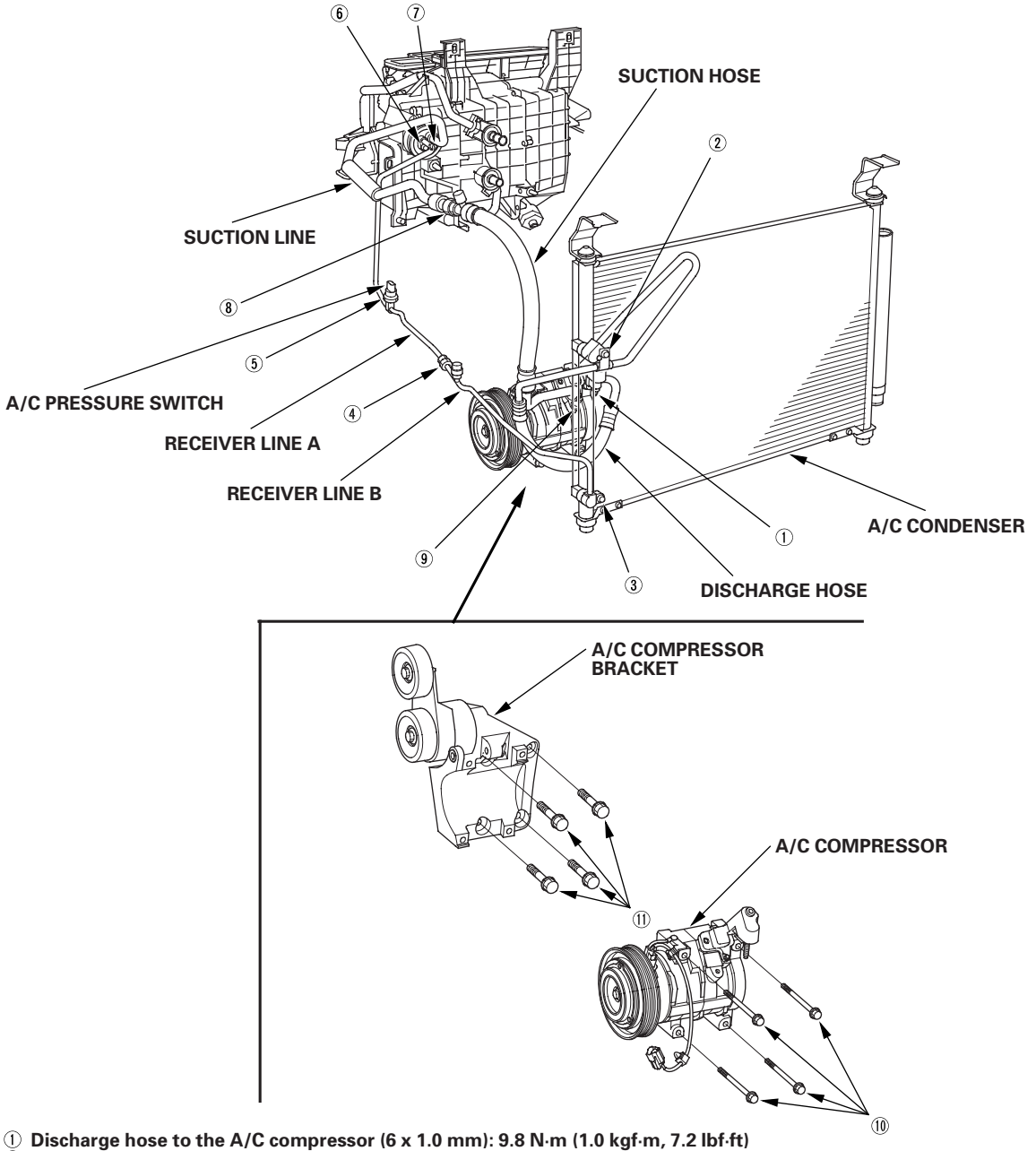
A/C condenser .....45 mL (1 1/2 fl·oz)
Evaporator .....45 mL (1 1/2 fl·oz)
Line or hose .....10 mL (1/3 fl·oz)
Leakage repair .....25 mL (5/6 fl·oz)
A/C compressor .....For A/C compressor replacement, subtract the volume of oil drained from the removed A/C compressor from 180 mL (6 fl·oz), and drain the calculated volume of oil from the new A/C compressor: 180 mL (6 fl·oz) — Volume of removed A/C compressor = Volume to drain from new A/C compressor.

NOTE: Even if no oil is drained from the removed A/C compressor, don't drain more than 50 mL (1 2/3 fl·oz) from the new A/C compressor.



A: 180 mL (6 fl·oz)

A/C Line Replacement

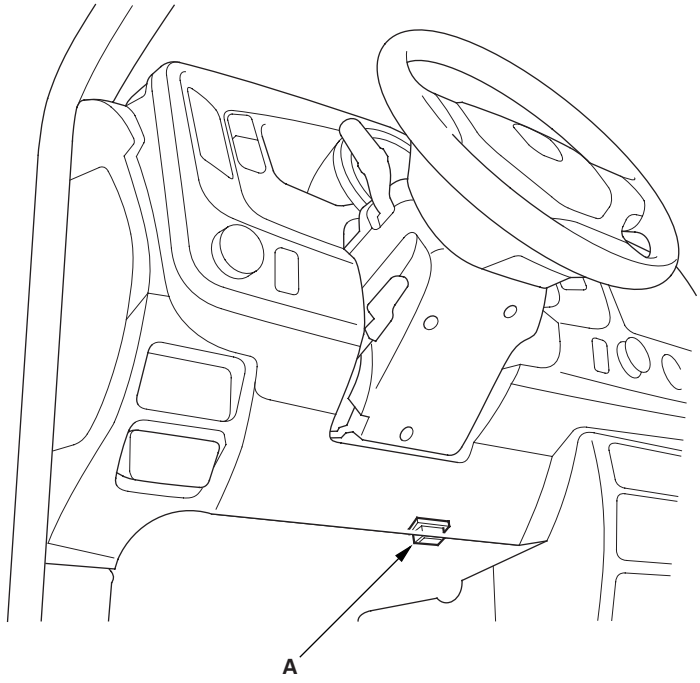


① Discharge hose to the A/C compressor (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
② Discharge hose to the A/C condenser (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
③ Receiver line B to the A/C condenser (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
④ Receiver line A to the receiver line B (16 x 1.5 mm): 13.2 N·m (1.4 kgf·m, 9.8 lbf·ft)
⑤ A/C pressure switch to receiver line A (11 x 1.0 mm): 9.3 N·m (0.9 kgf·m, 6.9 lbf·ft)
⑥ Receiver line A to the evaporator (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑦ Suction line to the evaporator (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑧ Suction line to the suction hose (24 x 1.5 mm): 31.9 N·m (3.3 kgf·m, 23.5 lbf·ft)
⑨ Suction hose to the A/C compressor (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑩ A/C compressor to the A/C compressor bracket (8 x 1.25 mm): 22 N·m (2.2 kgf·m, 16 lbf·ft)
⑪ A/C compressor bracket to the engine block (10 x 1.25 mm): 44 N·m (4.5 kgf·m, 33 lbf·ft)

General Troubleshooting Information

How to Check for DTCs with the HDS

1. Make sure the ignition switch is OFF.
2. Connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.



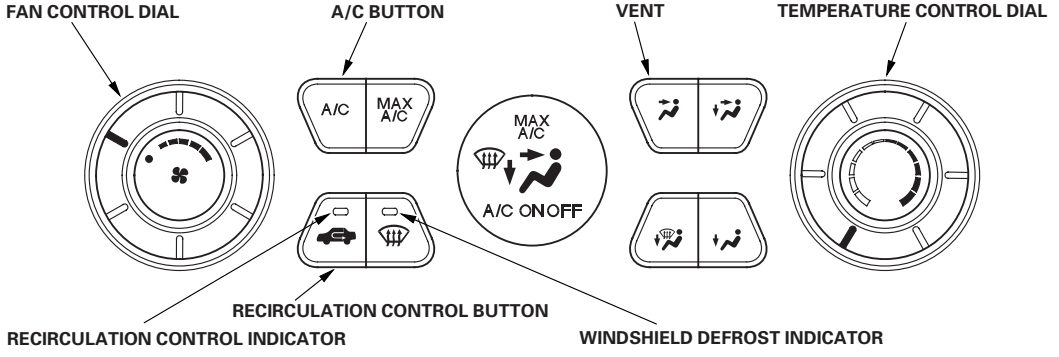
3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the climate control unit. If it doesn't, troubleshoot the DLC circuit (see page 11-194).
5. Select HVAC/CLIMATE CONTROL in the BODY ELECTRICAL menu.
6. Select DTCs in the HVAC/CLIMATE CONTROL menu.
7. Check for DTCs. If any DTCs are indicated, write down the DTCs, then go to the indicated DTC troubleshooting. If no DTCs are indicated, refer to symptom troubleshooting.

   NOTE:
   - After troubleshooting, clear the DTCs with the HDS.
   - For specific operations, refer to the user's manual that came with the HDS.

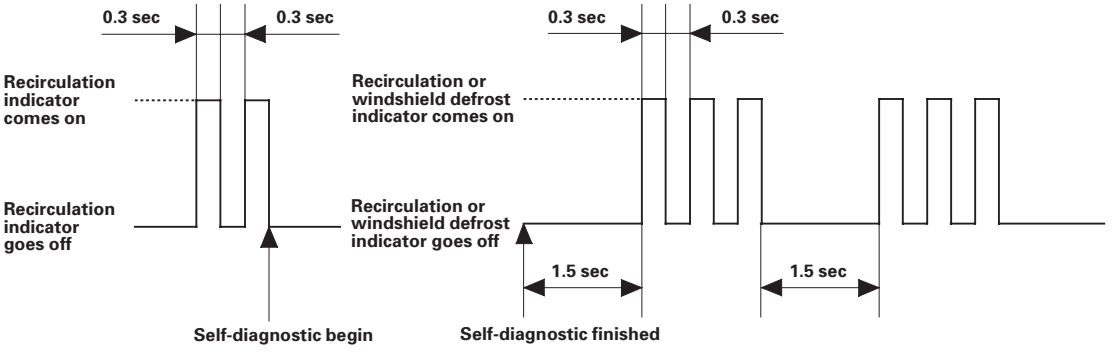
How to Use the Self-diagnostic Function without the HDS

The HVAC control unit has a self-diagnostic function for heating, ventilation, and air conditioning system. To run the self-diagnostic function, do the following:

1. Turn the ignition switch OFF.
2. Set the fan control dial OFF, the temperature control dial on Max Cool.
3. Turn the ignition switch ON (II), and select the vent mode.
4. Press and hold the A/C button, then press the recirculation button five times within 10 seconds. Release the A/C buttons; the recirculation indicator blinks two times, then the self-diagnostic begins.
   - If there is any problem in the system after self-diagnostic is finished, the recirculation indicator will blink Diagnostic Trouble Code (DTC) 1 through 10.
   - If no DTCs are found, the indicator will not blink.



Example of DTC Indication Pattern (DTC 3)



Canceling the Self-diagnostic Function

5. Turn the ignition switch OFF to cancel the self-diagnostic function. After completing repair work, run the self-diagnostic function again to make sure that there are no other malfunctions.

Max Cool Position Function

When the mode control button is in the MAX A/C position, the HVAC control unit will automatically select the recirculation mode and turn the A/C on. The recirculation switch and A/C switch are disabled and cannot be turned off in this mode. If the HVAC control unit fails to function as described, replace it.

(cont'd)

General Troubleshooting Information (cont'd)

DTC (Recirculation Indicator Blinks)	Detection Item
1	An open in the air mix control motor circuit (see page 21-26)
2	A short in the air mix control motor circuit (see page 21-27)
3	A problem in the air mix control linkage, door, or motor (see page 21-28)
4	An open or short in the mode control motor circuit (see page 21-30)
5	A problem in the mode control linkage, doors, or motor (see page 21-32)
6	A problem in the blower motor circuit (see page 21-33)
9	An open in the outside temperature sensor circuit (see page 21-21)
10	A short in the outside temperature sensor circuit (see page 21-22)

DTC (Windshield Defrost Indicator Blinks)	Detection Item
7	An open in the evaporator temperature sensor circuit (see page 21-23)
8	A short in the evaporator temperature sensor circuit (see page 21-25)

In case of multiple problems, the recirculation indicator will indicate only the DTC with the least number of blinks.

DTC Troubleshooting Index

Checking the DTCs by HDS

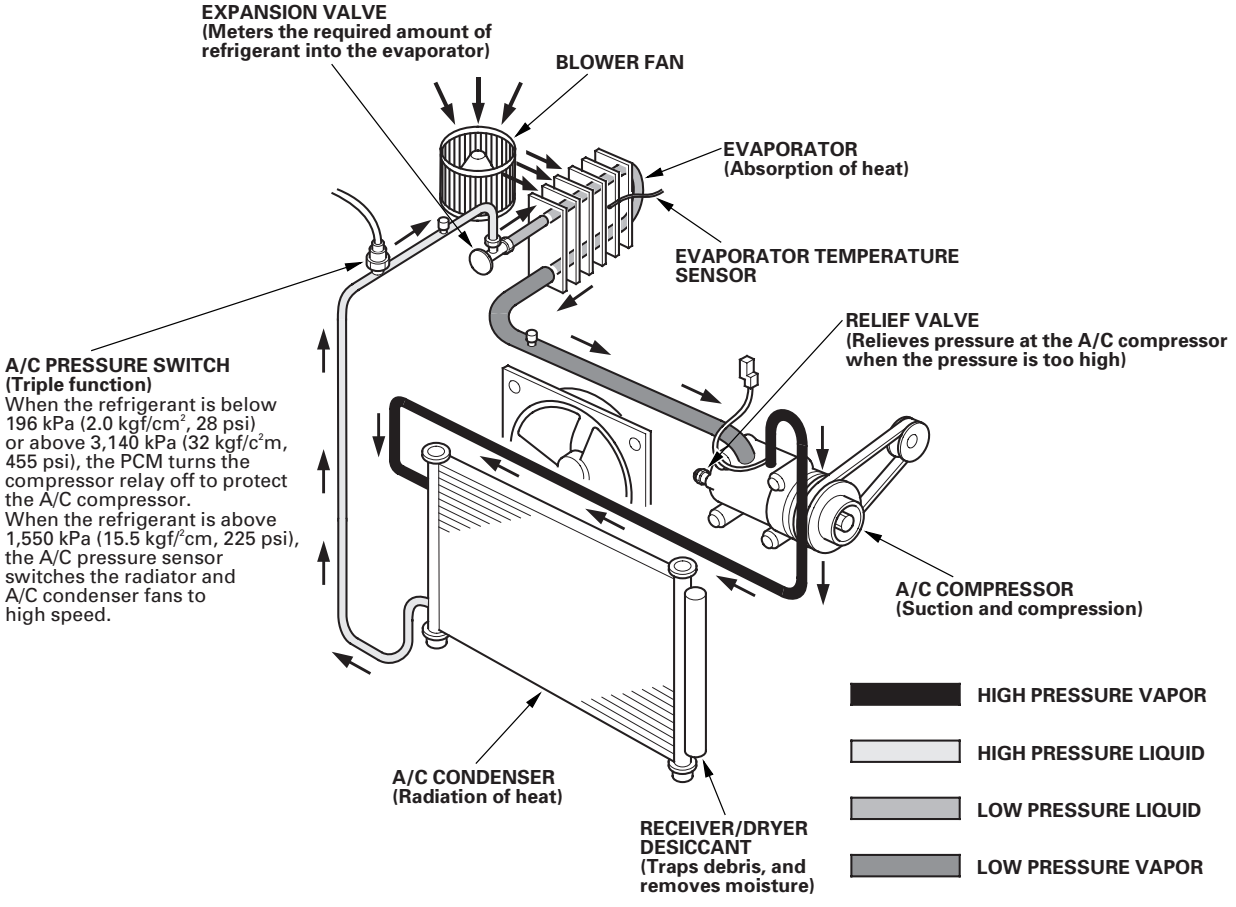
DTC	Detection Item or Symptom	ECU	DTC type	page
B1200	Communication bus line error	HVAC control unit	Loss of communication	(see page 22-110)
B1202	HVAC control unit internal error	HVAC control unit	Internal error	(see page 21-20)
B1205	HVAC control unit lost communication with gauge control module (VSP/NE message)	HVAC control unit	Loss of communication	(see page 21-20)
B1206	HVAC control unit lost communication with gauge control module (ECT message)	HVAC control unit	Loss of communication	(see page 21-20)
B1207	HVAC control unit lost communication with gauge control module (ILLUMI message)	HVAC control unit	Loss of communication	(see page 21-20)
B1227	An open in the outside air temperature sensor circuit	HVAC control unit	Signal error	(see page 21-21)
B1228	A short in the outside air temperature sensor circuit	HVAC control unit	Signal error	(see page 21-22)
B1231	An open in the evaporator temperature sensor circuit	HVAC control unit	Signal error	(see page 21-23)
B1232	A short in the evaporator temperature sensor circuit	HVAC control unit	Signal error	(see page 21-25)
B1233	An open in the air mix control motor circuit	HVAC control unit	Signal error	(see page 21-26)
B1234	A short in the air mix control motor circuit	HVAC control unit	Signal error	(see page 21-27)
B1235	A problem in the air mix control linkage, door, or motor	HVAC control unit	Signal error	(see page 21-28)
B1239	An open or short in the mode control motor circuit	HVAC control unit	Signal error	(see page 21-30)
B1240	A problem in the mode control linkage, doors, or motor	HVAC control unit	Signal error	(see page 21-32)
B1241	A problem in the blower motor circuit	HVAC control unit	Signal error	(see page 21-33)

Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
Recirculation control doors do not change between Fresh and Recirculate	Recirculation control motor circuit troubleshooting (see page 21-37)	• HVAC DTCs (see page 21-8) • Blown fuse No. 30 (7.5 A) in the under-dash fuse/relay box • Cleanliness and tightness of all terminals
Blower, heater controls, and A/C do not work	HVAC control power and ground circuit troubleshooting (see page 21-39)	• HVAC DTCs (see page 21-8) • Blown fuse No. 30 (7.5 A) in the under-dash fuse/relay box • Poor ground at G402 (see page 22-68) • Cleanliness and tightness of all terminals
Both fans do not run at low speed with the A/C on (but the A/C compressor runs with the A/C on)	Radiator and A/C condenser fan low speed circuit troubleshooting (see page 21-40)	• HVAC DTCs (see page 21-8) • Blown fuse No. 20 (30 A) in the under-hood fuse/relay box, and No. 30 (7.5 A) in the under-dash fuse/relay box • Poor ground at G201 (see page 22-68) • Cleanliness and tightness of all terminals
The A/C condenser fan does not run at high speed (but both fans run at low speed and the A/C compressor operates with the A/C on)	A/C condenser fan high speed circuit troubleshooting (see page 21-44)	• HVAC DTCs (see page 21-8) • Blown fuse No. 30 (7.5 A) in the under-dash fuse/relay box • Poor ground at G201 (see page 22-68) • Cleanliness and tightness of all terminals
Both fans do not run at high speed with the A/C on (but both fans run at low speed and the A/C compressor operates with the A/C on)	Radiator and A/C condenser fan high speed circuit troubleshooting (see page 21-46)	• HVAC DTCs (see page 21-8) • Poor ground at G202 (see page 22-68) • Cleanliness and tightness of all terminals
Both fans run at high speed all the time with the A/C on	Radiator and A/C condenser fan high speed circuit troubleshooting (see page 21-46)	• HVAC DTCs (see page 21-8) • Poor ground at G202 (see page 22-68) • Cleanliness and tightness of all terminals
The A/C compressor clutch does not engage (but both fans run with the A/C on)	A/C compressor clutch circuit troubleshooting (see page 21-47)	• HVAC DTCs (see page 21-8) • Blower motor operation • Blown fuse No. 12 (7.5 A) in the under-hood fuse/relay box, and No. 30 (7.5 A) in the driver's under-dash fuse/relay box • Cleanliness and tightness of all terminals
A/C system does not come on (both fans and the A/C compressor do not work); heater is OK	A/C Pressure switch circuit troubleshooting (see page 21-49)	• Body DTCs in B-CAN System Diagnosis Test Mode A Troubleshooting (see page 22-99) • HVAC DTCs (see page 21-8) • Cleanliness and tightness of all terminals
Blower fan runs slower than expected in cold weather	ECT Troubleshooting: ECT sensor 2 circuit low voltage (see page 11-149), ECT sensor 2 circuit high voltage (see page 11-151) NOTE: It is normal for the blower to run slowly until the engine coolant temperature begins to rise. If the blower continues to run slowly for an abnormal length of time, continue to troubleshoot the problem.	• Powertrain DTCs (see page 11-3) • Blower motor operation
HDS does not communicate with the HVAC control unit or the vehicle	Troubleshoot the DLC (see page 11-194)	

System Description

The air conditioning system removes heat from the passenger compartment by transferring heat from the ambient air to the evaporator. The evaporator cools the air with the refrigerant that is circulating through the evaporator. The refrigerant expands in the evaporator, and the evaporator becomes very cold and absorbs the heat from the ambient air. The blower fan pushes air across the evaporator where the heat is absorbed, and then it blows the cool air into the passenger compartment.


EXPANSION VALVE
(Meters the required amount of refrigerant into the evaporator)
BLOWER FAN
EVAPORATOR
(Absorption of heat)
EVAPORATOR TEMPERATURE SENSOR
RELIEF VALVE
(Relieves pressure at the A/C compressor when the pressure is too high)
A/C PRESSURE SWITCH
(Triple function)
When the refrigerant is below 196 kPa (2.0 kgf/cm², 28 psi) or above 3,140 kPa (32 kgf/c²m, 455 psi), the PCM turns the compressor relay off to protect the A/C compressor.
When the refrigerant is above 1,550 kPa (15.5 kgf/²cm, 225 psi), the A/C pressure sensor switches the radiator and A/C condenser fans to high speed.
A/C COMPRESSOR
(Suction and compression)
A/C CONDENSER
(Radiation of heat)
RECEIVER/DRYER
DESICCANT
(Traps debris, and removes moisture)
HIGH PRESSURE VAPOR
HIGH PRESSURE LIQUID
LOW PRESSURE LIQUID
LOW PRESSURE VAPOR

This vehicle uses HFC-134a (R-134a) refrigerant, which does not contain chlorofluorocarbons. Pay attention to the following service items:

- Do not mix refrigerants CFC-12 (R-12) and HFC-134a (R-134a). They are not compatible.
- Use only the recommended polyalkyleneglycol (PAG) refrigerant oil (DENSO ND-OIL 8) designed for the R-134a A/C compressor. Intermixing the recommended (PAG) refrigerant oil with any other refrigerant oil will result in A/C compressor failure.
- All A/C system parts (A/C compressor, discharge line, suction line, evaporator, A/C condenser, receiver/dryer, expansion valve, O-rings for joints) are designed for refrigerant R-134a. Do not exchange with R-12 parts.
- Use a halogen gas leak detector designed for refrigerant R-134a.
- R-12 and R-134a refrigerant servicing equipment are not interchangeable. Use only a recovery/recycling/charging station that is U.L.-listed and is certified to meet the requirements of SAE J2210 to service the R-134a air conditioning systems.
- Always recover refrigerant R-134a with an approved recovery/recycling/charging station before disconnecting any A/C fitting.

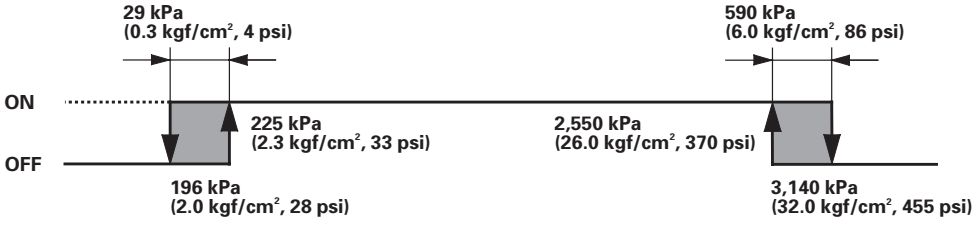
(cont'd)

System Description (cont'd)

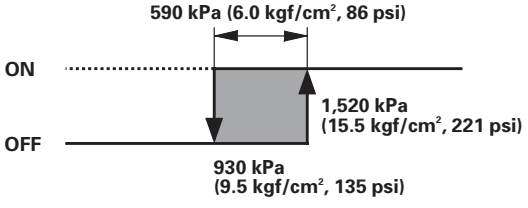
A/C Pressure Switch

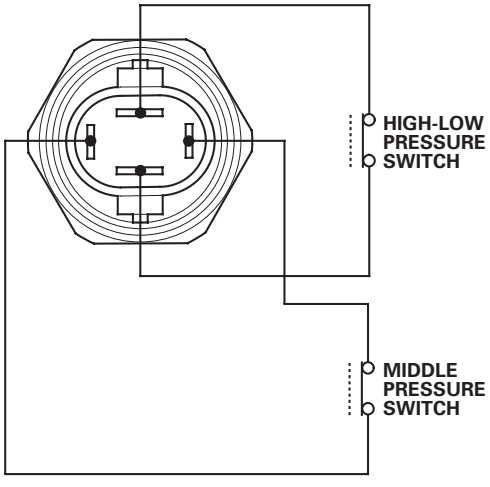
The A/C pressure switch consists of a high-low pressure switch (A/C pressure switch A) and a middle pressure switch (A/C pressure switch B).

- High-low pressure switch
  If the refrigerant pressure becomes too high (due to blockage or lack of airflow at the condenser), or too low (due to leakage), the A/C pressure switch stops the A/C request signal to the PCM and the A/C compressor stops operating.

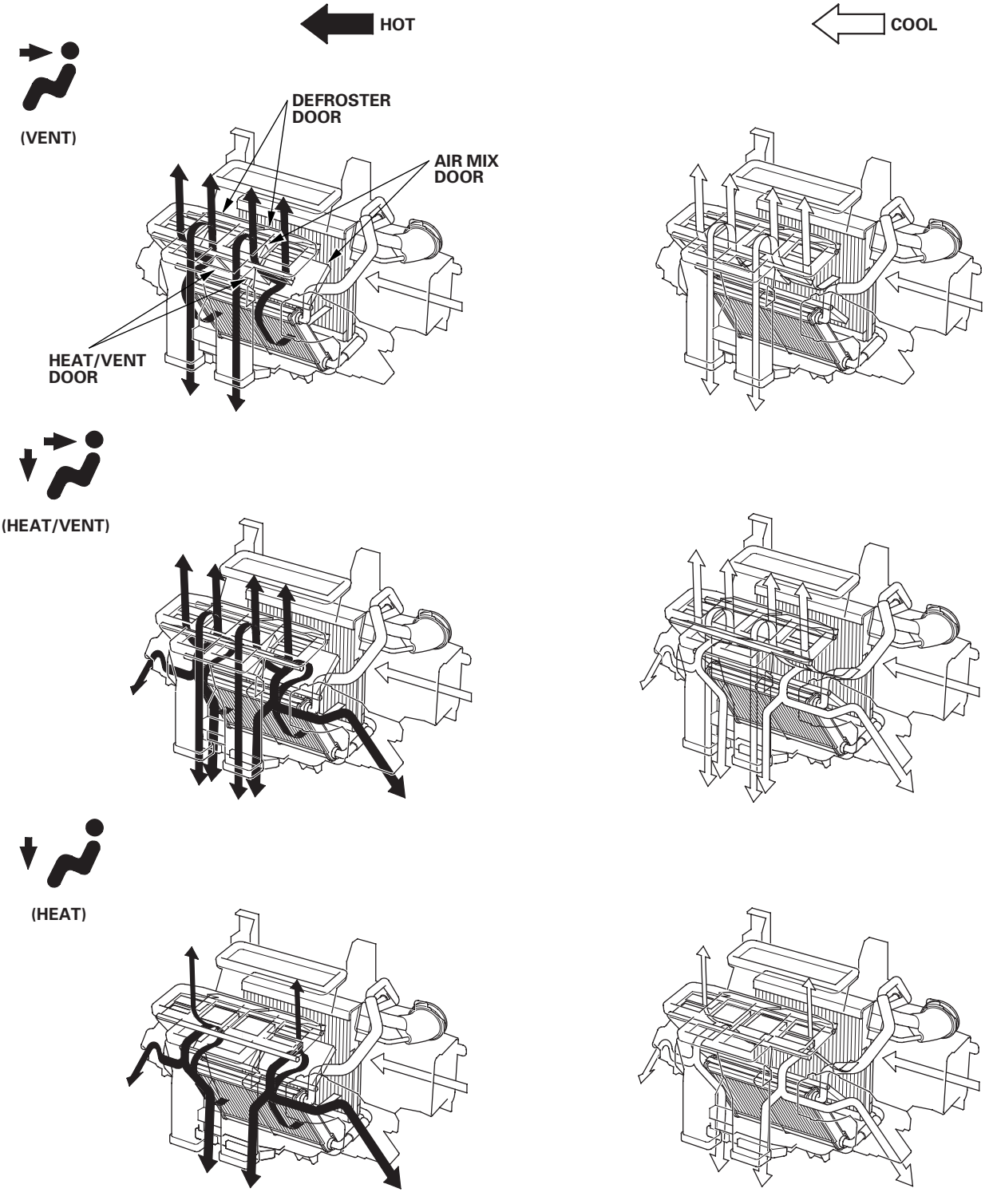


- Middle pressure switch
  If the refrigerant pressure goes above 1,520 kPa (15.5 kgf/cm², 221 psi), the A/C pressure switch closes to signal the PCM to change the speed of the A/C condenser fan and radiator fan to high. When the refrigerant pressure drops below 930 kPa (9.5 kgf/cm², 135 psi), the A/C pressure switch opens to signal the PCM to change the speed of the A/C condenser fan and radiator fan to low.



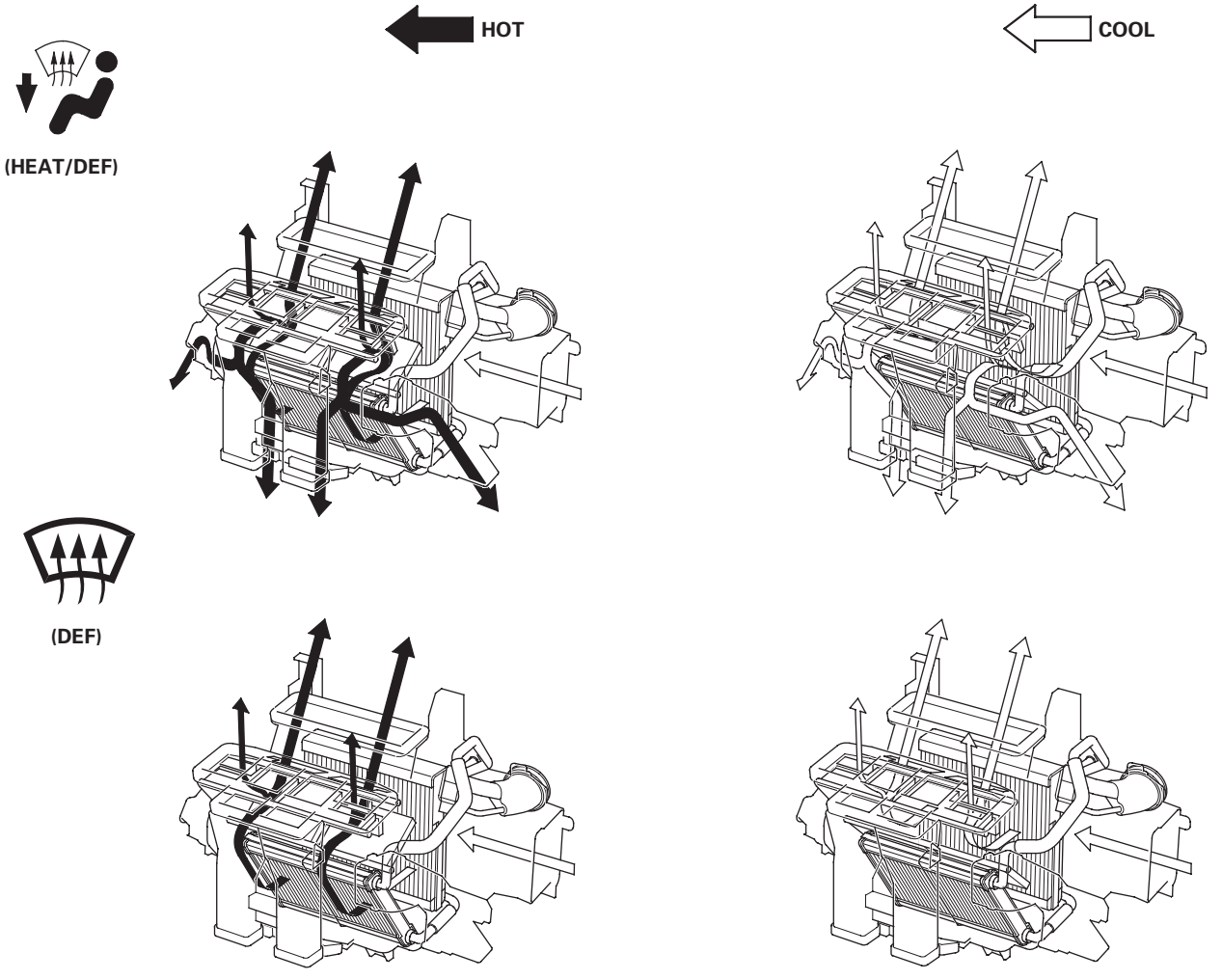


Heating/Air Conditioning Door Positions



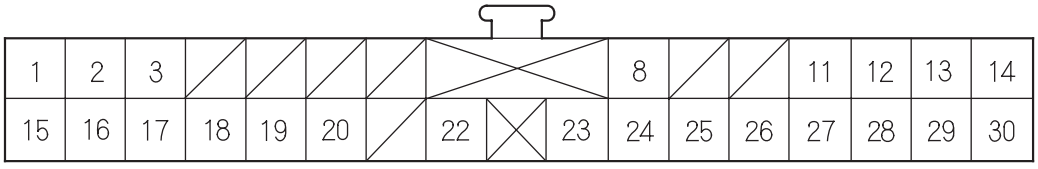
(cont'd)

System Description (cont'd)



HVAC Control Unit Inputs and Outputs

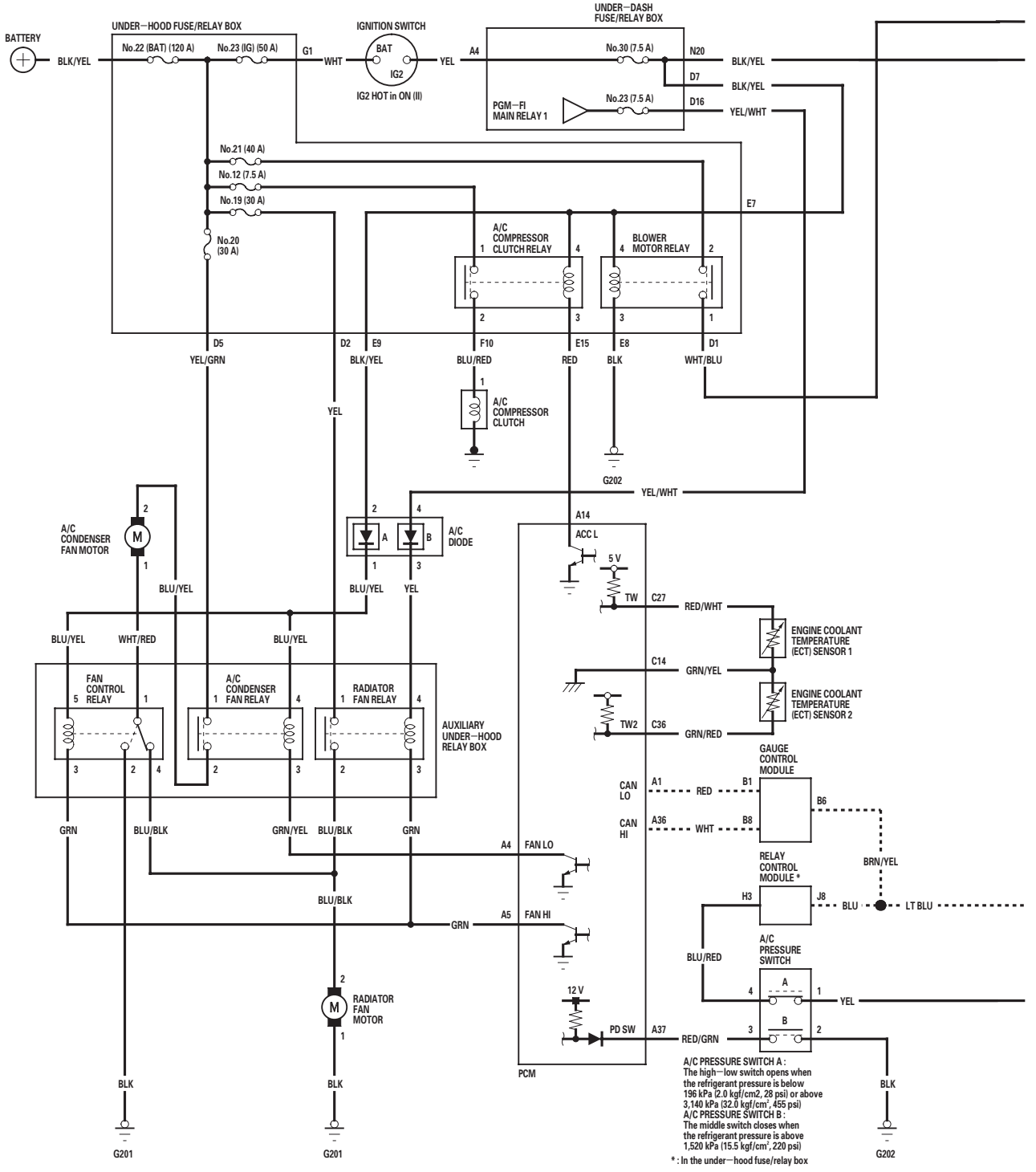
HVAC CONTROL UNIT 30P CONNECTOR

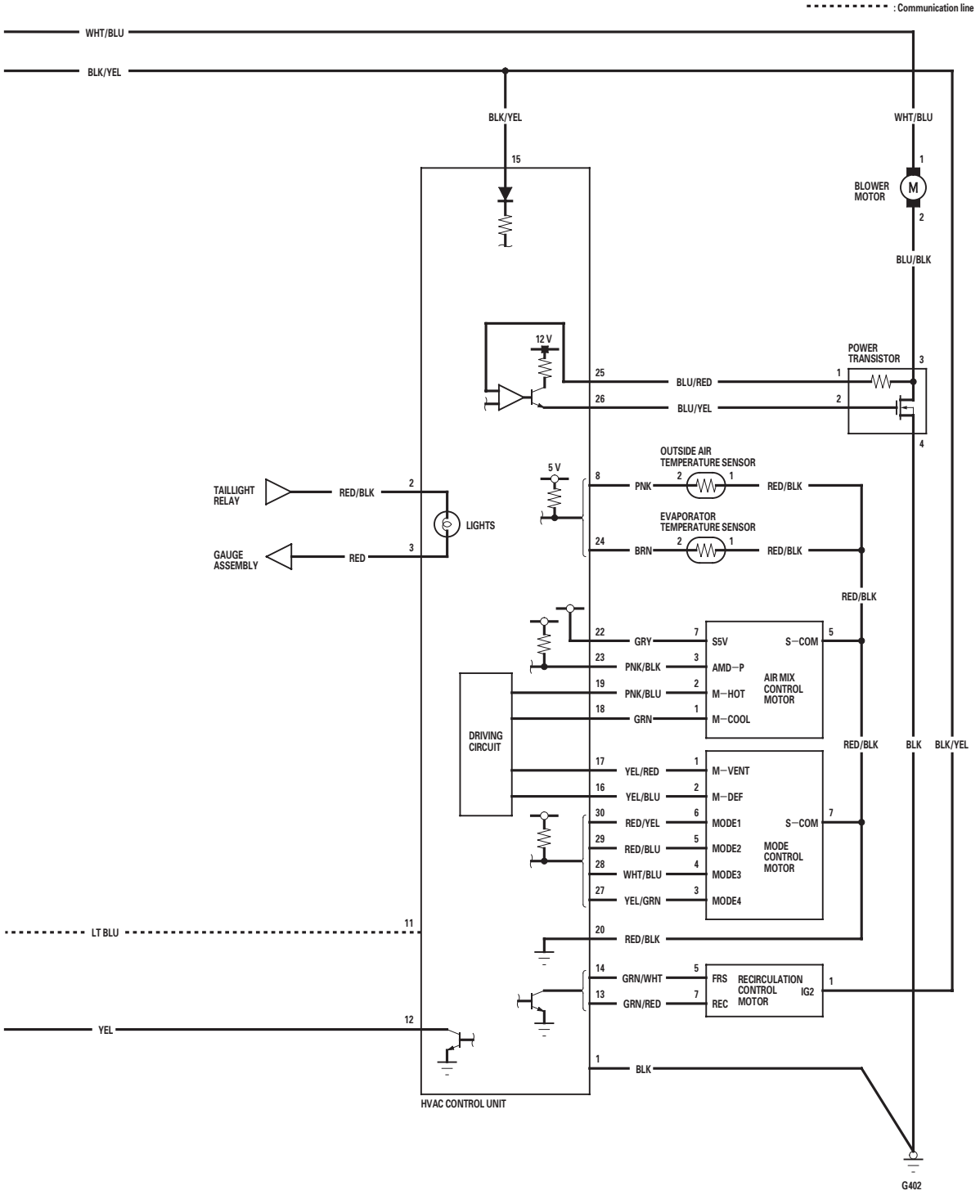


Wire side of female terminals

Cavity	Wire color	Signal	
1	BLK	GROUND (G402)	OUTPUT
2	RED/BLK	TAILLIGHT RELAY	INPUT
3	RED	GAUGE ASSEMBLY	OUTPUT
8	PNK	OUTSIDE AIR TEMPERATURE SENSOR	OUTPUT
11	LT BLU	B-CAN	INPUT/OUTPUT
12	YEL	A/C PRESSURE SWITCH	INPUT
13	GRN/RED	RECIRCULATE	INPUT
14	GRN/WHT	FRESH	INPUT
15	BLK/YEL	IG2 (Power)	INPUT
16	YEL/BLU	MODE OFF	OUTPUT
17	YEL/RED	MODE VENT	OUTPUT
18	GRN	AIR MIX COOL	OUTPUT
19	PNK/BLU	AIR MIX HOT	OUTPUT
20	RED/BLK	SENSOR COMMON GROUND	INPUT
22	GRY	AIR MIX POTENTIAL +5	OUTPUT
23	PNK/BLK	AIR MIX POTENTIAL	OUTPUT
24	BRN	EVAPORATOR TEMPERATURE SENSOR	OUTPUT
25	BLU/RED	BLOWER FEEDBACK	INPUT
26	BLU/YEL	POWER TRANSISTOR CONTROL	OUTPUT
27	YEL/GRN	MODE 4	OUTPUT
28	WHT/BLU	MODE 3	OUTPUT
29	RED/BLU	MODE 2	OUTPUT
30	RED/YEL	MODE 1	OUTPUT

Circuit Diagram




: Communication line
WHT/BLU
BLK/YEL
BLK/YEL
WHT/BLU
15
1
BLOWER MOTOR
M
2
BLU/BLK
12 V
POWER TRANSISTOR
3
25
BLU/RED
1
26
BLU/YEL
2
4
OUTSIDE AIR TEMPERATURE SENSOR
5 V
8
PNK
2
1
RED/BLK
TAILLIGHT RELAY
RED/BLK
2
LIGHTS
GAUGE ASSEMBLY
RED
3
EVAPORATOR TEMPERATURE SENSOR
24
BRN
2
1
RED/BLK
RED/BLK
22
GRY
7
S5V
S–COM
5
23
PNK/BLK
3
AMD–P
19
PNK/BLU
2
M–HOT
AIR MIX CONTROL MOTOR
18
GRN
1
M–COOL
DRIVING CIRCUIT
RED/BLK
BLK
BLK/YEL
17
YEL/RED
1
M–VENT
16
YEL/BLU
2
M–DEF
30
RED/YEL
6
MODE1
S–COM
7
29
RED/BLU
5
MODE2
MODE CONTROL MOTOR
28
WHT/BLU
4
MODE3
27
YEL/GRN
3
MODE4
LT BLU
11
20
RED/BLK
14
GRN/WHT
5
FRS
RECIRCULATION CONTROL MOTOR
IG2
1
13
GRN/RED
7
REC
YEL
12
1
BLK
HVAC CONTROL UNIT
G402

DTC Troubleshooting

DTC B1202: HVAC Control Unit Internal Error

NOTE:
- Check the battery condition (see page 22-74) and the charging system (see page 4-26).
- If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-99).

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS.

   Is DTC B1202 indicated?

   YES—The HVAC control unit is faulty, replace the control unit. ■

   NO—Intermittent failure, the HVAC control unit is OK at this time. ■

DTC B1205: HVAC Control Unit Lost Communication with Gauge Control Module (VSP/NE message)

DTC B1206: HVAC Control Unit Lost Communication with Gauge Control Module (ECT message)

DTC B1207: HVAC Control Unit Lost Communication with Gauge Control Module (ILLUMI message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-99).

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS.

   Is DTC B1205, B1206 and/or B1207 indicated?

   YES—Go to step 4.

   NO—Intermittent failure, the gauge control module and HVAC control unit are OK at this time. ■

4. Check for DTCs using the HDS.

   Is DTC B1060 or B2157 indicated?

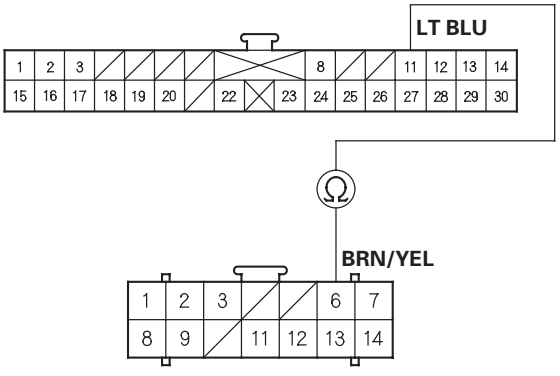
   YES—Perform the gauge control module input test (see page 22-122). ■

   NO—Go to step 5.

5. Turn the ignition switch OFF.
6. Disconnect the HVAC control unit 30P connector.
7. Remove the gauge control module (see page 22-263).

8. Check for continuity between the HVAC control unit 30P connector No. 11 terminal and gauge control module connector B (14P) No. 6 terminal.

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



GAUGE CONTROL MODULE CONNECTOR B (14P)
Wire side of female terminals

Is there continuity?

YES—Substitute a known-good HVAC control unit, then return to step 3 and recheck . If the problem is still present, replace the gauge control module (see page 22-263).■

NO—Repair open in the wire between the HVAC control unit and gauge control module.■

DTC B1227 or DTC indicator 9: An Open in the Outside Air Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1227 or 9 indicated?

   YES—Go to step 4.

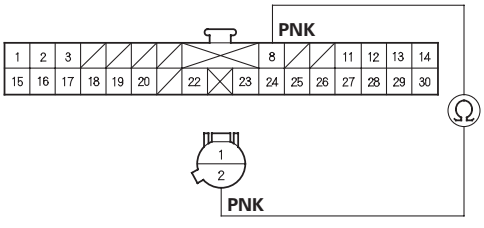
   NO—Intermittent failure, check for loose wires or poor connections on the outside air temperature sensor circuit.■
4. Turn the ignition switch OFF.
5. Remove the outside air temperature sensor (see page 21-52) and test it (see page 21-52).

   Is the outside air temperature sensor OK?

   YES—Go to step 6.

   NO—Replace the outside air temperature sensor.■
6. Disconnect the HVAC control unit 30P connector.
7. Check for continuity between the HVAC control unit 30P connector No. 8 terminal and the outside air temperature sensor 2P connector No. 2 terminal.

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



OUTSIDE AIR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Go to step 8.

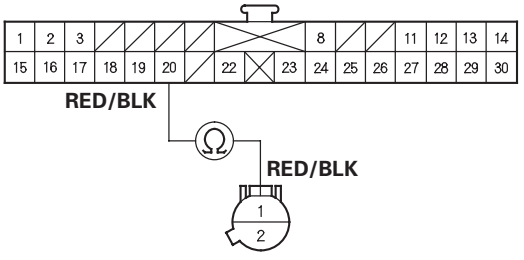
NO—Repair open in the wire between the HVAC control unit and the outside air temperature sensor.■

(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between the HVAC control unit 30P connector No. 20 terminal and the outside air temperature sensor 2P connector No. 1 terminal.

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



OUTSIDE AIR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the HVAC control unit 30P connector and at the outside air temperature sensor 2P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

NO—Repair open in the wire between the HVAC control unit and the outside air temperature sensor. ■

DTC B1228 or DTC indicator 10: A Short in the Outside Air Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1228 or 10 indicated?

   YES—Go to step 4.

   NO—Intermittent failure. ■
4. Turn the ignition switch OFF.
5. Remove the outside air temperature sensor (see page 21-52) and test it (see page 21-52).

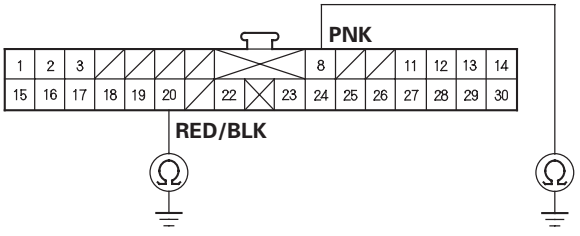
   Is the outside air temperature sensor OK?

   YES—Go to step 6.

   NO—Replace the outside air temperature sensor. ■
6. Disconnect the HVAC control unit 30P connector.

7. Check for continuity between body ground and the HVAC control unit 30P connector No. 8 and No. 20 terminals.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

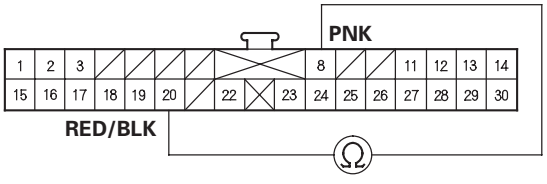
Is there continuity?

YES—Repair short to body ground in the wires between the HVAC control unit and the outside air temperature sensor. ■

NO—Go to step 8.

8. Check for continuity between the HVAC control unit 30P connector No. 8 and No. 20 terminals.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short in the wires between the HVAC control unit and the outside air temperature sensor. ■

NO—Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

DTC B1231 or DTC indicator 7: An Open in the Evaporator Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1231 or 7 indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the evaporator temperature sensor circuit. ■
4. Turn the ignition switch OFF.
5. Remove the evaporator temperature sensor (see page 21-53) and test it (see page 21-53).

   Is the evaporator temperature sensor OK?

   YES—Go to step 6.

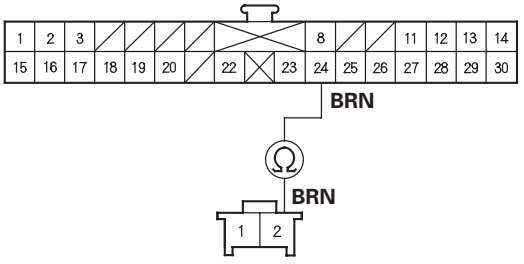
   NO—Replace the evaporator temperature sensor. ■
6. Disconnect the HVAC control unit 30P connector.

(cont'd)

DTC Troubleshooting (cont'd)

7. Check for continuity between the HVAC control unit 30P connector No. 24 terminal and the evaporator temperature sensor 2P connector No. 2 terminal.

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

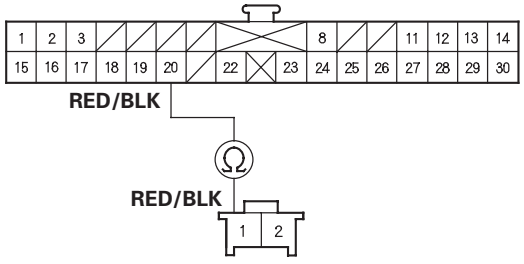
Is there continuity?

YES—Go to step 8.

NO—Repair open in the wire between the HVAC control unit and the evaporator temperature sensor. ■

8. Check for continuity between the HVAC control unit 30P connector No. 20 terminal and the evaporator temperature sensor 2P connector No. 1 terminal.

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the HVAC control unit 30P connector and at the evaporator temperature sensor 2P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

NO—Repair open in the wire between the HVAC control unit and the evaporator temperature sensor. ■

DTC B1232 or DTC indicator 8: A Short in the Evaporator Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1232 or 8 indicated?

   YES—Go to step 4.

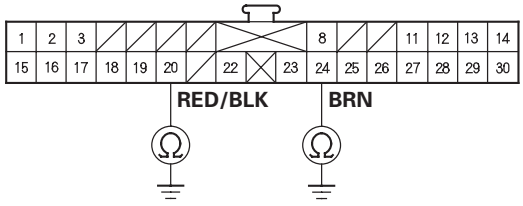
   NO—Intermittent failure. ■
4. Turn the ignition switch OFF.
5. Remove the evaporator temperature sensor (see page 21-53) and test it (see page 21-53).

   Is the evaporator temperature sensor OK?

   YES—Go to step 6.

   NO—Replace the evaporator temperature sensor. ■
6. Disconnect the HVAC control unit 30P connector.
7. Check for continuity between body ground and the HVAC control unit 30P connector No. 20 and No. 24 terminals.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

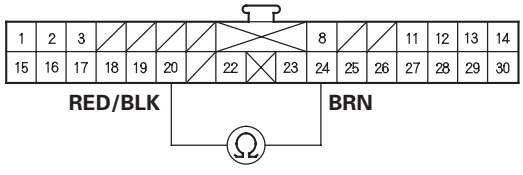
Is there continuity?

YES—Repair short to body ground in the wires between the HVAC control unit and the evaporator temperature sensor. ■

NO—Go to step 8.

8. Check for continuity between the HVAC control unit 30P connector No. 20 and No. 24 terminals.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short in the wires between the HVAC control unit and the evaporator temperature sensor. ■

NO—Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

DTC Troubleshooting (cont'd)

DTC B1233 or DTC indicator 1: An Open in the Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1233 or 1 indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the air mix control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the air mix control motor (see page 21-55).

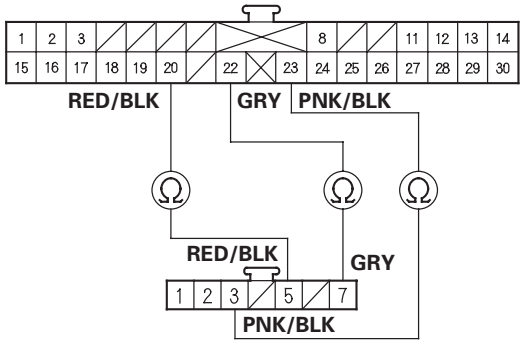
   Is the air mix control motor OK?

   YES—Go to step 6.

   NO—Replace the air mix control motor (see page 21-55). ■
6. Disconnect the air mix control motor 7P connector.
7. Disconnect the HVAC control unit 30P connector.
8. Check for continuity between the following terminals of the HVAC control unit 30P connector and the air mix control motor 7P connector.

30P:	7P:
No. 20	No. 5
No. 22	No. 7
No. 23	No. 3

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the HVAC control unit 30P connector and at the air mix control motor 7P connector. If the connections are good, substitute a known-good HVAC control unit and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

NO—Repair any open in the wires between the HVAC control unit and the air mix control motor. ■

DTC B1234 or DTC indicator 2: A Short in the Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1234 or 2 indicated?

   YES—Go to step 4.

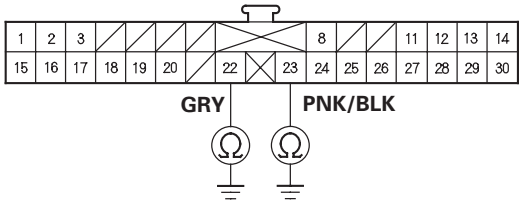
   NO—Intermittent failure. ■
4. Turn the ignition switch OFF.
5. Test the air mix control motor (see page 21-55).

   Is the air mix control motor OK?

   YES—Go to step 6.

   NO—Replace the air mix control motor (see page 21-55). ■
6. Disconnect the air mix control motor 7P connector.
7. Disconnect the HVAC control unit 30P connector.
8. Check for continuity between body ground and the HVAC control unit 30P connector No. 22 and No. 23 terminals individually.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

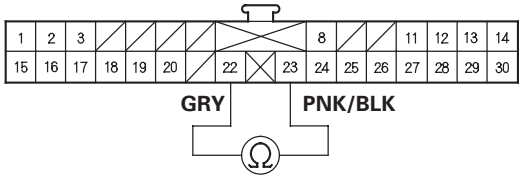
Is there continuity?

YES—Repair any short to body ground in the wire(s) between the HVAC control unit and the air mix control motor. ■

NO—Go to step 9.

9. Check for continuity between the HVAC control unit 30P connector No. 22 and No. 23 terminals.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity between any of the terminals?

YES—Repair the short in the wires. ■

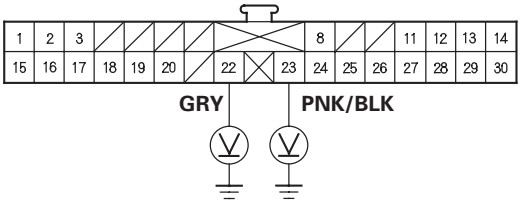
NO—Go to step 10.

(cont'd)

DTC Troubleshooting (cont'd)

10. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there voltage?

YES—Repair short to power in the wire(s) between the HVAC control unit and the air mix control motor. This short may also damage the HVAC control unit. Repair the short to power before replacing the HVAC control unit. ■

NO—Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

DTC B1235 or DTC indicator 3: A Problem in the Air Mix Control Linkage, Door, or Motor

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1235 or 3 indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the air mix control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the air mix control motor (see page 21-55).

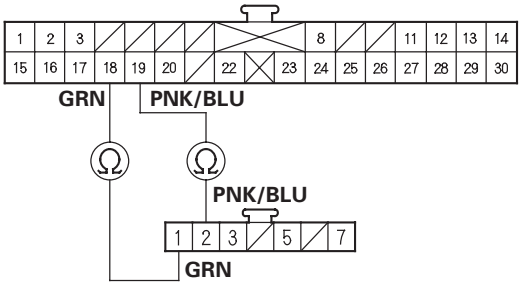
   Is the air mix control motor OK?

   YES—Go to step 6.

   NO—Replace the air mix control motor (see page 21-55), or repair the air mix control linkage or door. ■
6. Disconnect the air mix control motor 7P connector.
7. Disconnect HVAC control unit 30P connector.

8. Check for continuity between the following terminals of HVAC control unit 30P connector and the air mix control motor 7P connector.
   30P: 7P:
   No. 18 No. 1
   No. 19 No. 2

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

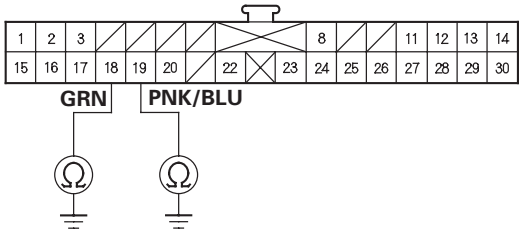
Is there continuity?

YES—Go to step 9.

NO—Repair open in the wire(s) between the HVAC control unit and the air mix control motor.■

9. Check for continuity between body ground and HVAC control unit 30P connector No. 18 and No. 19 terminals individually.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wire(s) between the HVAC control unit and the air mix control motor.■

NO—Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit.■

DTC Troubleshooting (cont'd)

DTC B1239 or DTC indicator 4: An Open or Short in the Mode Control Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1239 or 4 indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the mode control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the mode control motor (see page 21-56).

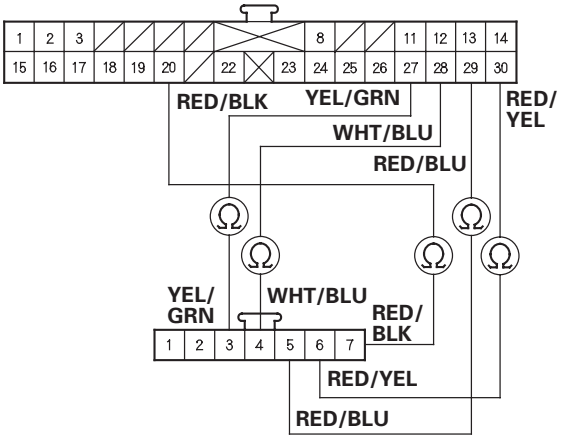
   Is the mode control motor OK?

   YES—Go to step 6.

   NO—Replace the mode control motor (see page 21-56). ■
6. Disconnect the mode control motor 7P connector.
7. Disconnect the HVAC control unit 30P connector.
8. Check for continuity between the following terminals of the HVAC control unit 30P connector and the mode control motor 7P connector.

30P:	7P:
No. 20	No. 7
No. 27	No. 3
No. 28	No. 4
No. 29	No. 5
No. 30	No. 6

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

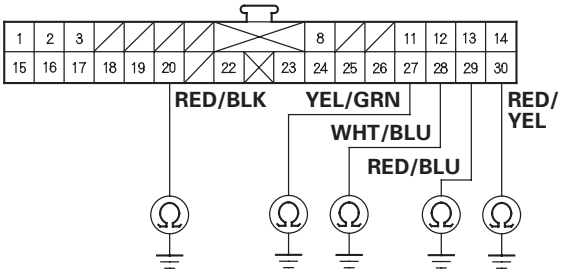
Is there continuity?

YES—Go to step 9.

NO—Repair open in the wires between the HVAC control unit and the mode control motor. ■

9. Check for continuity between body ground and the HVAC control unit 30P connector No. 20, 27, 28, 29, and 30 terminals individually.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wires between the HVAC control unit and the mode control motor. ■

NO—Go to step 10.

10. Check for continuity between the HVAC control unit connector terminals as follows.

From terminal	To terminals
20	27, 28, 29, 30
27	28, 29, 30
28	29, 30
29	30

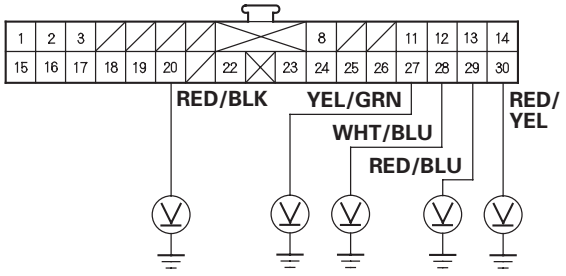
Is there continuity between any of the terminals?

YES—Repair the short in the wires. ■

NO—Go to step 11.

11. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES—Repair short to power in the wires between the HVAC control unit and the mode control motor. This short may also damage the HVAC control unit. Repair the short to power before replacing the HVAC control unit. ■

NO—Check for loose wires or poor connections at the HVAC control unit 30P connector and at the mode control motor 7P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

DTC Troubleshooting (cont'd)

DTC B1240 or DTC indicator 5: A Problem in the Mode Control Linkage, Doors, or Motor

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1240 or 5 indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the mode control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the mode control motor (see page 21-56).

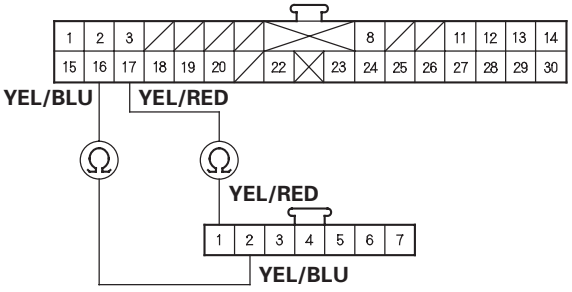
   Is the mode control motor OK?

   YES—Go to step 6.

   NO—Replace the mode control motor (see page 21-56), or repair the mode control linkage or doors. ■
6. Disconnect the mode control motor 7P connector.
7. Disconnect HVAC control unit 30P connector.
8. Check for continuity between the following terminals of HVAC control unit 30P connector and the mode control motor 7P connector.

30P:	7P:
No. 16	No. 2
No. 17	No. 1

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

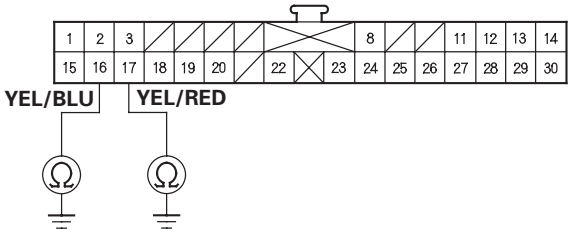
Is there continuity?

YES—Go to step 9.

NO—Repair open in the wire(s) between the HVAC control unit and the mode control motor. ■

9. Check for continuity between body ground and HVAC control unit 30P connector No. 16 and No. 17 terminals individually.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wire(s) between the HVAC control unit and the mode control motor. ■

NO—Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

DTC B1241 or DTC indicator 6: A Problem in the Blower Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the heater-A/C control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1241 or 6 indicated?

   YES—Go to step 4.

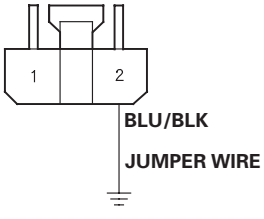
   NO—Intermittent failure, check for loose wires or poor connections on the blower motor circuit. ■
4. Turn the ignition switch OFF.
5. Check the No. 21 (40 A) fuse in the under-hood fuse/relay box, and the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Are the fuses OK?

   YES—Go to step 6.

   NO—Replace the fuses, and recheck. If the fuses blow again, check for a short in the No. 21 (40 A) and No. 30 (7.5 A) fuses circuit. ■
6. Connect the blower motor 2P connector No. 2 terminal to body ground with a jumper wire.

BLOWER MOTOR 2P CONNECTOR



Wire side of female terminals

7. Turn the ignition switch ON (II).

   Does the blower motor run?

   YES—Go to step 8.

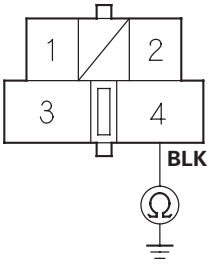
   NO—Go to step 23.

(cont'd)

DTC Troubleshooting (cont'd)

8. Turn the ignition switch OFF.
9. Disconnect the jumper wire.
10. Disconnect the power transistor 4P connector.
11. Check for continuity between the power transistor 4P connector No. 4 terminal and body ground.

POWER TRANSISTOR 4P CONNECTOR



Wire side of female terminals

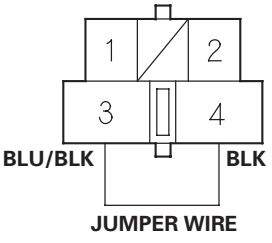
Is there continuity?

YES—Go to step 12.

NO—Check for an open in the wire between the power transistor and body ground. If the wire is OK, check for poor ground at G402 (see page 22-68). ■

12. Connect the power transistor 4P connector No. 3 and No. 4 terminals with a jumper wire.

POWER TRANSISTOR 4P CONNECTOR



Wire side of female terminals

13. Turn the ignition switch ON (II).

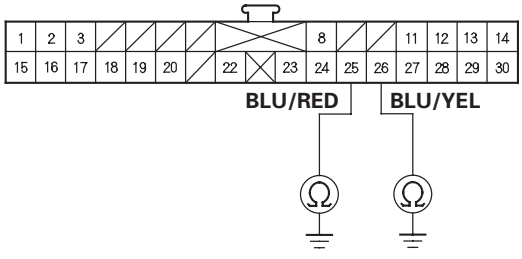
Does the blower motor run at high speed?

YES—Go to step 14.

NO—Repair open in the BLU/BLK wire between the power transistor and the blower motor. ■

14. Turn the ignition switch OFF.
15. Disconnect the jumper wire.
16. Disconnect the HVAC control unit 30P connector.
17. Check for continuity between body ground and the HVAC control unit 30P connector No. 25 and No. 26 terminals individually.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

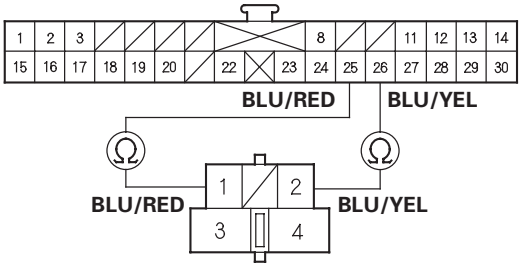
Is there continuity?

YES—Repair short to body ground in the wires between the HVAC control unit and the power transistor. ■

NO—Go to step 18.

18. Check for continuity between the following terminals of the HVAC control unit 30P connector and the power transistor 4P connector.
    30P: 4P:
    No. 25 No. 1
    No. 26 No. 2

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



POWER TRANSISTOR 4P CONNECTOR
Wire side of female terminals

Is there continuity?

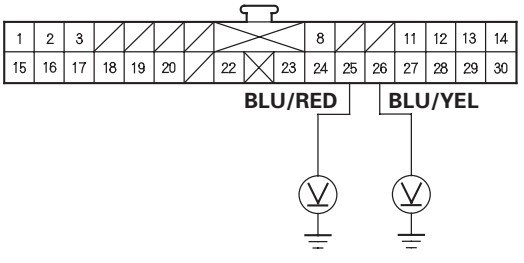
YES—Go to step 19.

NO—Repair open in the wires between the HVAC control unit and the power transistor. ■

19. Start the engine.

20. Measure the voltage between body ground and the HVAC control unit 30P connector No. 25 and No. 26 terminals individually.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there voltage?

YES—Repair short to power in the wires. ■

NO—Go to step 21.

21. Reconnect the HVAC control unit 30P connector.

22. Test the power transistor (see page 21-54).

Is the power transistor OK?

YES—Check for loose wire or poor connections at the HVAC control unit 30P connector and at the power transistor 4P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

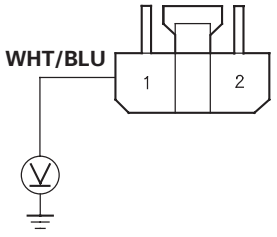
NO—Replace the power transistor. ■

23. Disconnect the jumper wire.

24. Disconnect the blower motor 2P connector.

25. Measure the voltage between the blower motor 2P connector No. 1 terminal and body ground.

BLOWER MOTOR 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES—Replace the blower motor. ■

NO—Go to step 26.

26. Turn the ignition switch OFF.

27. Remove the blower motor relay from the under-hood fuse/relay box, and test it (see page 22-75).

Is the relay OK?

YES—Go to step 28.

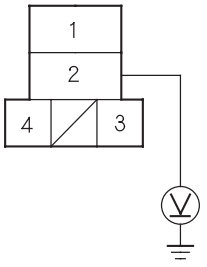
NO—Replace the blower motor relay. ■

(cont'd)

DTC Troubleshooting (cont'd)

28. Measure the voltage between the blower motor relay 4P socket No. 2 terminal and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Is there battery voltage?

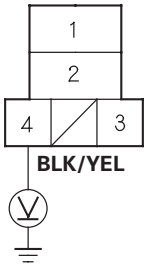
YES—Go to step 29.

NO—Replace the under-hood fuse/relay box (see page 22-72). ■

29. Turn the ignition switch ON (II).

30. Measure the voltage between the blower motor relay 4P socket No. 4 terminal and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Is there battery voltage?

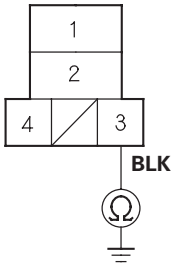
YES—Go to step 31.

NO—Repair open in the wire between the No. 30 (7.5 A) fuse in the under-dash fuse/relay box and the blower motor relay. ■

31. Turn the ignition switch OFF.

32. Check for continuity between the blower motor relay 4P socket No. 3 terminal and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Is there continuity?

YES—Repair open in the WHT/BLU wire between the blower motor relay and the blower motor. ■

NO—Check for an open in the wire between the blower motor relay and body ground. If the wire is OK, check for poor ground at G202 (see page 22-68). ■

Recirculation Control Motor Circuit Troubleshooting

1. Check the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Is the fuse OK?

   YES—Go to step 2.

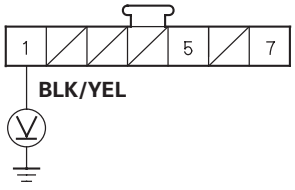
   NO—Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 30 (7.5 A) fuse circuit. ■

2. Disconnect the recirculation control motor 7P connector.

3. Turn the ignition switch ON (II).

4. Measure the voltage between the recirculation control motor 7P connector No. 1 terminal and body ground.

RECIRCULATION CONTROL MOTOR 7P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES—Go to step 5.

NO—Repair open in the wire between the No. 30 (7.5 A) fuse in the under-dash fuse/relay box and the recirculation control motor. ■

5. Turn the ignition switch OFF.

6. Test the recirculation control motor (see page 21-57).

   Is the recirculation control motor OK?

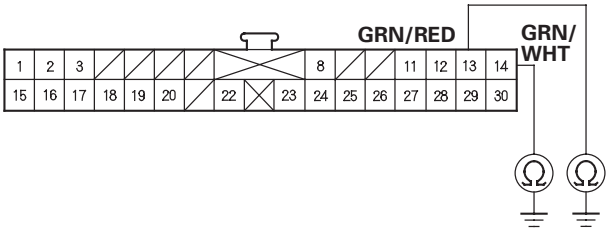
   YES—Go to step 7.

   NO—Replace the recirculation control motor (see page 21-57), or repair the recirculation control linkage or door. ■

7. Disconnect the HVAC control unit 30P connector.

8. Check for continuity between body ground and the HVAC control unit 30P connector No. 13 and No. 14 terminals individually.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wires between the HVAC control unit and the recirculation control motor. ■

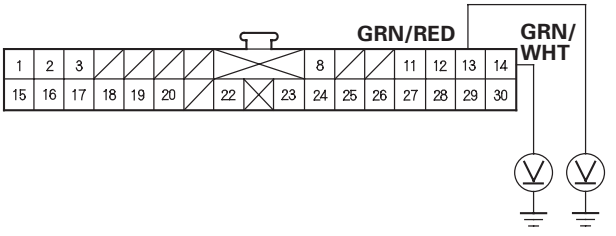
NO—Go to step 9.

(cont'd)

Recirculation Control Motor Circuit Troubleshooting (cont'd)

9. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES—Repair short to power in the wires between the HVAC control unit and the recirculation control motor. This short may also damage the HVAC control unit. Repair the short to power before replacing the HVAC control unit. ■

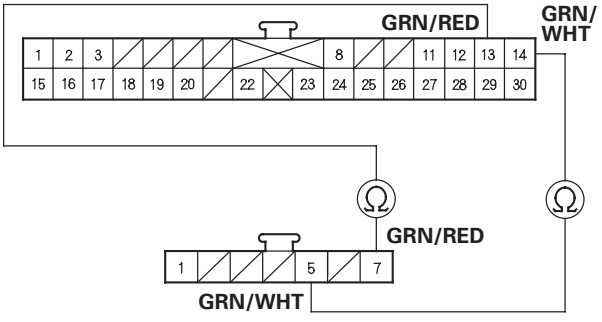
NO—Go to step 10.

10. Turn the ignition switch OFF.

11. Check for continuity between the following terminals of the HVAC control unit 30P connector and the recirculation control motor 7P connector.

30P:	7P:
No. 13	No. 7
No. 14	No. 5

HVAC CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



RECIRCULATION CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the HVAC control unit 30P connector and at the recirculation control motor 7P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

NO—Repair open in the wires between the HVAC control unit and the recirculation control motor. ■

HVAC Control Power and Ground Circuit Troubleshooting

1. Check the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Is the fuse OK?

   YES—Go to step 2.

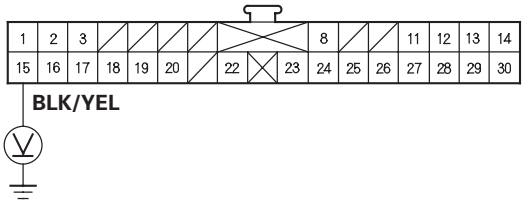
   NO—Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 30 (7.5 A) fuse circuit. ■

2. Disconnect the HVAC control unit 30P connector.

3. Turn the ignition switch ON (II).

4. Measure the voltage between the HVAC control unit 30P connector No. 15 terminal and body ground.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there battery voltage?

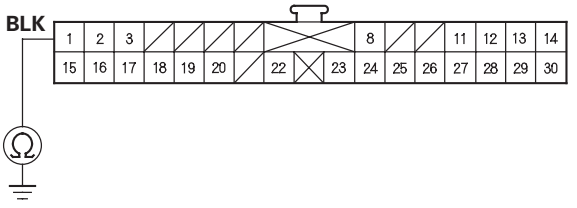
YES—Go to step 5.

NO—Repair open in the wire between the No. 30 (7.5 A) fuse in the under-dash fuse/relay box and the HVAC control unit. ■

5. Turn the ignition switch OFF.

6. Check for continuity between the HVAC control unit 30P connector No. 1 terminal and body ground.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the HVAC control unit 30P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication is still present, substitute a known-good HVAC control unit, and recheck. ■

NO—Check for an open in the wire between the HVAC control unit and body ground. If the wire is OK, check for poor ground at G402 (see page 22-68). ■

Radiator and A/C Condenser Fan Low Speed Circuit Troubleshooting

NOTE:
- Do not use this troubleshooting procedure if the A/C compressor is inoperative. Refer to the symptom troubleshooting index.
- Before performing symptom troubleshooting, check for powertrain DTCs (see page 11-3).

1. Check the No. 20 (30 A) fuse in the under-hood fuse/relay box, and the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Are the fuses OK?

   YES—Go to step 2.

   NO—Replace the fuses, and recheck. If the fuses blow again, check for a short in the No. 20 (30 A) and No. 30 (7.5 A) fuses circuit. ■

2. Remove the A/C condenser fan relay from the auxiliary under-hood fuse/relay box, and test it (see page 22-75).

   Is the relay OK?

   YES—Go to step 3.

   NO—Replace the A/C condenser fan relay. ■

3. Connect the HDS to the DLC (see page 21-8).

4. Turn the ignition switch ON (II).

5. Turn on the A/C on the HVAC control unit.

6. Check the FAN LOW CTRL in the PGM-FI Data List with the HDS.

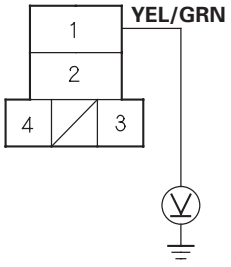
   Is the FAN LOW CTRL on?

   YES—Go to step 7.

   NO—Substitute a known-good PCM (see page 11-8), and retest. If the symptom/indication goes away with a known-good PCM, replace the original PCM (see page 11-205). ■

7. Measure the voltage between the A/C condenser fan relay 4P socket No. 1 terminal and body ground.

A/C CONDENSER FAN RELAY 4P SOCKET



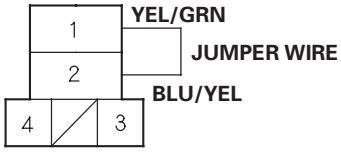
Is there battery voltage?

YES—Go to step 8.

NO—Repair open in the wire between the No. 20 (30 A) fuse in the auxiliary under-hood fuse/relay box and the A/C condenser fan relay. ■

8. Connect the A/C condenser fan relay 4P socket No. 1 and No. 2 terminals with a jumper wire.

A/C CONDENSER FAN RELAY 4P SOCKET



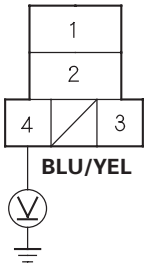
Do the A/C condenser and radiator fans run?

YES—Go to step 9.

NO—Go to step 18.

9. Disconnect the jumper wire.
10. Turn the ignition switch ON (II).
11. Measure the voltage between the A/C condenser fan relay 4P socket No. 4 terminal and body ground.

A/C CONDENSER FAN RELAY 4P SOCKET



Is there battery voltage?

YES—Go to step 12.

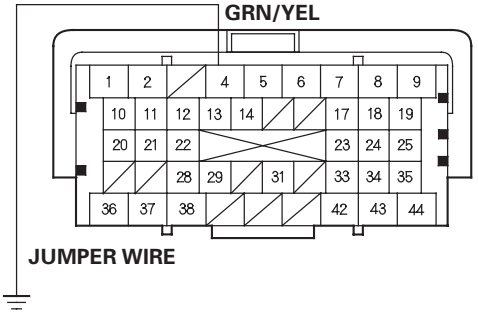
NO—Go to step 36.

12. Turn the ignition switch OFF.
13. Reinstall the A/C condenser fan relay.
14. Jump the SCS line with the HDS.

    NOTE: This step must be done to protect the powertrain control module (PCM) from damage.

15. Disconnect PCM connector A (44P).
16. Connect the PCM connector A (44P) No. 4 terminal to body ground with a jumper wire.

PCM CONNECTOR A (44P)



Terminal side of female terminals

17. Turn the ignition switch ON (II).

    Do the A/C condenser and radiator fans run on LO?

    YES—Check for loose wires or poor connections at PCM connector A (44P) No. 4 terminal. If the connections are good, substitute a known-good PCM, and recheck. If the symptom/indication goes away, replace the original PCM (see page 11-205). ■

    NO—Repair open in the wire between the A/C condenser fan relay and the PCM. ■

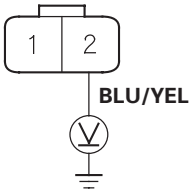
18. Disconnect the jumper wire.
19. Reinstall the A/C condenser fan relay.
20. Disconnect the A/C condenser fan 2P connector.
21. Turn the ignition switch ON (II), then set the A/C button and fan control dial ON.

(cont'd)

Radiator and A/C Condenser Fan Low Speed Circuit Troubleshooting (cont'd)

22. Measure the voltage between the A/C condenser fan 2P connector No. 2 terminal and body ground.

A/C CONDENSER FAN 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES—Go to step 23.

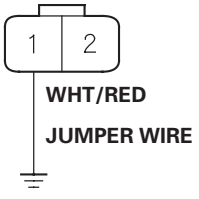
NO—Repair open in the wire between the A/C condenser fan relay and the A/C condenser fan. ■

23. Set the A/C button and fan control dial OFF, then turn the ignition switch OFF.

24. Reconnect the A/C condenser fan 2P connector.

25. Connect the A/C condenser fan 2P connector No. 1 terminal to body ground with a jumper wire.

A/C CONDENSER FAN 2P CONNECTOR



Wire side of female terminals

26. Turn the ignition switch ON (II), then set the A/C button and fan control dial ON.

Does the A/C condenser fan run?

YES—Go to step 27.

NO—Replace the A/C condenser fan motor. ■

27. Set the A/C button and fan control dial OFF, then turn the ignition switch OFF.

28. Disconnect the jumper wire.

29. Remove the fan control relay from the auxiliary under-hood relay box, and test it (see page 22-75).

Is the relay OK?

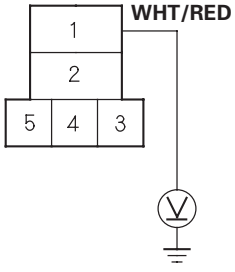
YES—Go to step 30.

NO—Replace the fan control relay. ■

30. Turn the ignition switch ON (II), then set the A/C button and fan control dial ON.

31. Measure the voltage between the fan control relay 5P socket No. 1 terminal and body ground.

FAN CONTROL RELAY 5P SOCKET



Is there battery voltage?

YES—Go to step 32.

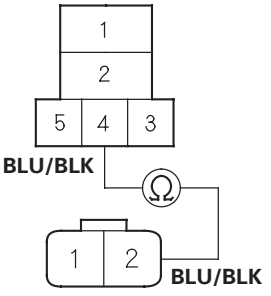
NO—Repair open in the wire between the A/C condenser fan and the fan control relay. ■

32. Set the A/C button and fan control dial OFF, then turn the ignition switch OFF.

33. Disconnect the radiator fan 2P connector.

34. Check for continuity between the fan control relay 5P socket No. 4 terminal and the radiator fan 2P connector No. 2 terminal.

FAN CONTROL RELAY 5P SOCKET



RADIATOR FAN 2P CONNECTOR
Wire side of female terminals

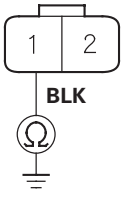
Is there continuity?

YES—Go to step 35.

NO—Repair open in the wire between the fan control relay and the radiator fan. ■

35. Check for continuity between the radiator fan 2P connector No. 1 terminal and body ground.

RADIATOR FAN 2P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Replace the radiator fan motor. ■

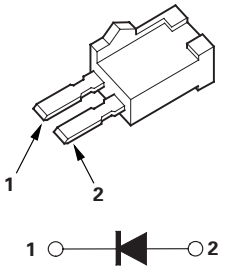
NO—Check for an open in the wire between the radiator fan and body ground. If the wire is OK, check for poor ground at G201 (see page 22-68). ■

36. Turn the ignition switch OFF.

37. Remove A/C diode A from right engine compartment wire harness.

38. Using the diode setting (⊷) on a DVOM, check for current flow in both directions between the A/C diode A No. 1 and No. 2 terminals.

A/C DIODE A



Is there current flow in only one direction?

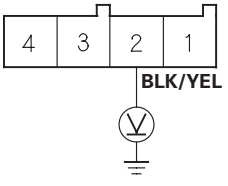
YES—Go to step 39.

NO—Replace A/C diode A. ■

39. Turn the ignition switch ON (II).

40. Measure the voltage between the A/C diode 4P socket No. 2 terminal and body ground.

A/C DIODE 4P SOCKET



Is there battery voltage?

YES—Repair open in the wire between A/C diode A and the A/C condenser fan relay. ■

NO—Repair open in the wire between the No. 30 (7.5 A) fuse in the under-dash fuse/relay box and A/C diode A. ■

A/C Condenser Fan High Speed Circuit Troubleshooting

NOTE:
- Do not use this troubleshooting procedure if the radiator fan and/or the A/C compressor is inoperative. Refer to the symptom troubleshooting index.
- Before performing symptom troubleshooting, check for powertrain DTCs (see page 11-3).

1. Check the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Is the fuse OK?

   YES—Go to step 2.

   NO—Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 30 (7.5 A) fuse circuit. ■

2. Remove the fan control relay from the auxiliary under-hood relay box, and test it (see page 22-75).

   Is the relay OK?

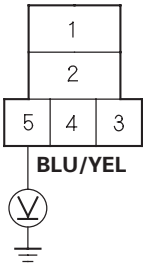
   YES—Go to step 3.

   NO—Replace the fan control relay. ■

3. Turn the ignition switch ON (II).

4. Measure the voltage between the No. 5 terminal of the fan control relay 5P socket and body ground.

FAN CONTROL RELAY 5P SOCKET



   Is there battery voltage?

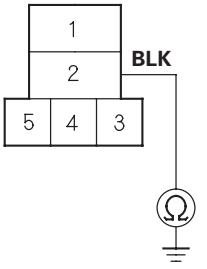
   YES—Go to step 5.

   NO—Go to step 9.

5. Turn the ignition switch OFF.

6. Check for continuity between the fan control relay 5P socket No. 2 terminal and body ground.

FAN CONTROL RELAY 5P SOCKET



   Is there continuity?

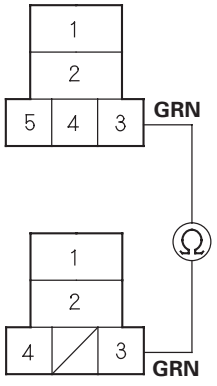
   YES—Go to step 7.

   NO—Check for an open in the wire between the fan control relay and body ground. If the wire is OK, check for poor ground at G201 (see page 22-68). ■

7. Remove the radiator fan relay from the auxiliary under-hood fuse/relay box.

8. Check for continuity between the fan control relay 5P socket No. 3 terminal and the radiator fan relay 4P socket No. 3 terminal.

FAN CONTROL RELAY 5P SOCKET



RADIATOR FAN RELAY 4P SOCKET

Is there continuity?

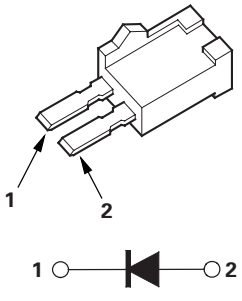
YES—Repair open in the GRN wire between the radiator fan relay No. 3 terminal and the PCM A5 terminal. ■

NO—Repair open in the wire between the fan control relay and the radiator fan relay. ■

9. Remove A/C diode A from right engine compartment wire harness.

10. Using the diode setting(⊷) on a DVOM, check for current flow in both directions between the A/C diode A No. 1 and No. 2 terminals.

A/C DIODE A



Is there current flow in only one direction?

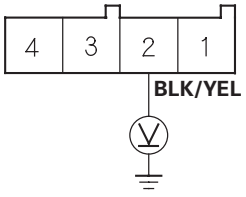
YES—Go to step 11.

NO—Replace A/C diode A. ■

11. Turn the ignition switch ON (II).

12. Measure the voltage between the A/C diode 4P socket No. 2 terminal and body ground.

A/C DIODE 4P SOCKET



Is there battery voltage?

YES—Repair open in the wire between A/C diode A and the condenser fan control relay. ■

NO—Repair open in the wire between the No. 30 (7.5 A) fuse in the under-dash fuse/relay box and A/C diode A. ■

Radiator and A/C Condenser Fan High Speed Circuit Troubleshooting

NOTE:
- Do not use this troubleshooting procedure if only one fan is inoperative, or if the A/C compressor is inoperative. Refer to the symptom troubleshooting index.
- Before performing symptom troubleshooting, check for powertrain DTCs (see page 11-3).
- The normal operating A/C pressure for the radiator and A/C condenser fans to run at high speed is 1,520 kPa (15.5 kgf/cm^2, 221 psi).

1. Check the No. 19 (30 A) fuse and No. 20 (30 A) fuse in the under-hood fuse/relay box, and the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Are the fuses OK?
   YES—Go to step 2.
   NO—Replace the fuse(s), and recheck. ■

2. Using the HDS, confirm the following values in the Data List at idle.

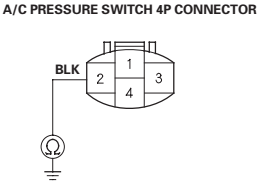
A/C SWITCH	on
A/C CLUTCH	on
Fan Low Speed	on
Fan High Speed	on

   Are all the values OK?
   YES—Go to step 3.
   NO—Troubleshoot the value that is not the specifications. ■

3. Turn the ignition switch OFF.

4. Disconnect the A/C pressure switch 4P connector.

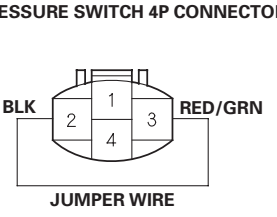
5. Check for continuity between the A/C pressure switch 4P connector No. 2 terminal and body ground.



   Is there continuity?
   YES—Go to step 6.
   NO—Check for an open in the wire between the A/C pressure switch and body ground. If the wire is OK, check for poor ground at G202 (see page 22-68). ■

6. Turn the ignition switch ON (II), then set the A/C button and fan control dial to ON.

7. Connect the A/C pressure switch 4P connector No. 2 and No. 3 terminals with a jumper wire.



   Do the radiator and condenser fans run at high speed?

   YES—Replace the A/C pressure switch. ■

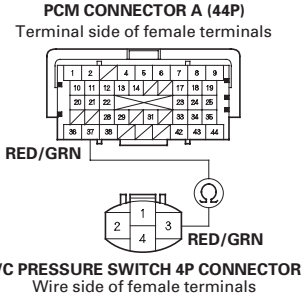
   NO—Go to step 8.

8. Jump the SCS line with the HDS.

   NOTE: This step must be done to protect the powertrain control module (PCM) from damage.

9. Disconnect PCM connector A (44P).

10. Check for continuity between the PCM connector A (44P) No. 37 terminal and the A/C pressure switch 4P connector No. 3 terminal.



   Is there continuity?

   YES—Check for loose wires or poor connections at PCM connector A (44P). If the connections are good, substitute a known-good PCM, and recheck. If the symptom/indication goes away, replace the original PCM (see page 11-205). ■

   NO—Repair open in the wire between the PCM and A/C pressure switch. ■

A/C Compressor Clutch Circuit Troubleshooting

NOTE:
- It is normal for the A/C compressor to turn off under certain conditions, such as low idle, high engine coolant temperature, or hard acceleration.
- Do not use this troubleshooting procedure if the fans are also inoperative with the A/C on. Refer to the symptom troubleshooting index.
- Before doing any symptom troubleshooting, check for powertrain DTCs (see page 11-3).

1. Check the No. 12 (7.5 A) fuse in the under-hood fuse/relay box, and the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Are the fuses OK?

   YES—Go to step 2.

   NO—Replace the fuses and recheck. If the fuses blow again, check for a short in the No. 12 (7.5 A) and No. 30 (7.5 A) fuses circuit. ■

2. Connect the HDS to the DLC (see page 21-8).

3. Start the engine.

4. Turn on the A/C on the HVAC control unit.

5. Check the A/C CLUTCH in the PGM-FI Data List with the HDS.

   Is the A/C CLUTCH on?

   YES—Go to step 7.

   NO—Go to step 6.

6. Check the engine coolant temperature and idle speed (use the HDS PGM-FI data list if possible).

ECT Sensor 2	169—194 °F (76—90 °C)
TP sensor	About 0.5 V at idle
RPM	More than 730

   Are the coolant temperature and idle speed OK?

   YES—Go to step 7.

   NO—Troubleshoot and repair the cause of the high engine coolant temperature or low idle. ■

7. Remove the A/C compressor clutch relay from the under-hood fuse/relay box, and test it (see page 22-75).

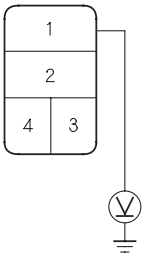
   Is the relay OK?

   YES—Go to step 8.

   NO—Replace the A/C compressor clutch relay. ■

8. Measure the voltage between the A/C compressor clutch relay 4P socket No. 1 terminal and body ground.

A/C COMPRESSOR CLUTCH RELAY 4P SOCKET



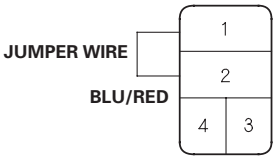
   Is there battery voltage?

   YES—Go to step 9.

   NO—Replace the under-hood fuse/relay box (see page 22-72). ■

9. Connect the A/C compressor clutch relay 4P socket No. 1 and No. 2 terminals with a jumper wire.

A/C COMPRESSOR CLUTCH RELAY 4P SOCKET



   Does the A/C compressor clutch click?

   YES—Go to step 10.

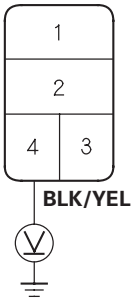
   NO—Go to step 19.

(cont'd)

A/C Compressor Clutch Circuit Troubleshooting (cont'd)

10. Disconnect the jumper wire.
11. Turn the ignition switch ON (II).
12. Measure the voltage between the A/C compressor clutch relay 4P socket No. 4 terminal and body ground.

A/C COMPRESSOR CLUTCH RELAY 4P SOCKET



Is there battery voltage?

YES—Go to step 13.

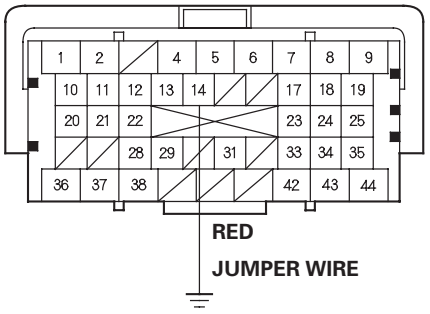
NO—Repair open in the wire between the No. 30 (7.5 A) fuse in the under-dash fuse/relay box and the A/C compressor clutch relay. ■

13. Turn the ignition switch OFF.
14. Reinstall the A/C compressor clutch relay.
15. Jump the SCS line with the HDS.

    NOTE: This step must be done to protect the powertrain control module (PCM) from damage.

16. Disconnect PCM connector A (44P).
17. Connect the PCM connector A (44P) No. 14 terminal to body ground with a jumper wire.

PCM CONNECTOR A (44P)



Terminal side of female terminals

18. Turn the ignition switch ON (II).

    Does the A/C compressor click?

    YES—Check for loose wires or poor connections at PCM connector A (44P). If the connections are good, check the PCM grounds. If the grounds are good, substitute a known-good PCM, and recheck. If the symptom/indication goes away, replace the original PCM (see page 11-205).■

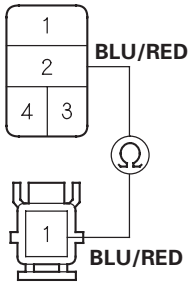
    NO—Repair open in the wire between the A/C compressor clutch relay and the PCM.■

19. Disconnect the jumper wire.

20. Disconnect the A/C compressor clutch 1P connector.

21. Check for continuity between the A/C compressor clutch relay 4P socket No. 2 terminal and the A/C compressor clutch 1P connector No. 1 terminal.

A/C COMPRESSOR CLUTCH RELAY 4P SOCKET



A/C COMPRESSOR CLUTCH 1P CONNECTOR
Terminal side of male terminals

Is there continuity?

YES—Check the A/C compressor clutch clearance, and the compressor clutch field coil (see page 21-68). Repair as needed.■

NO—Repair open in the wire between the A/C compressor clutch relay and the A/C compressor clutch.■

A/C Pressure Switch Circuit Troubleshooting

NOTE:
- Do not use this troubleshooting procedure if any of the following items are operative; A/C condenser fan, radiator fan, A/C compressor. Refer to the symptom troubleshooting index.
- Before doing any symptom troubleshooting, check for powertrain DTCs (see page 11-3).
- If the blower motor does not run at all speeds, the A/C compressor will be inoperative. Before performing any other troubleshooting, repair the cause of the inoperative blower motor.

1. Check for body DTCs using B-CAN system diagnosis test mode A troubleshooting (see page 22-99).

   Are there any DTCs indicated?

   YES—Do the appropriate troubleshooting for the DTC indicated.■
   NO—Go to step 3.

2. Refer to the PGM-FI ECU Data List.

   Is the A/C switch off?

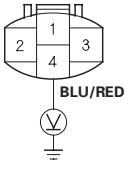
   YES—Go to step 3.
   NO—Refer to the symptom troubleshooting index.■

3. Disconnect the A/C pressure switch 4P connector.

4. Turn the ignition switch ON (II).

5. Measure the voltage between the A/C pressure switch 4P connector No. 4 terminal and body ground.

A/C PRESSURE SWITCH 4P CONNECTOR



Wire side of female terminals

Is there 5 V or more?

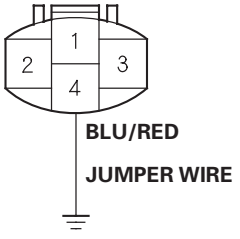
YES—Go to step 6.
NO—Go to step 20.

(cont'd)

A/C Pressure Switch Circuit Troubleshooting (cont'd)

6. Connect the A/C pressure switch 4P connector No. 4 terminal to body ground with a jumper wire.

A/C PRESSURE SWITCH 4P CONNECTOR



Wire side of female terminals

7. Start the engine.

Does the compressor and fans come on?

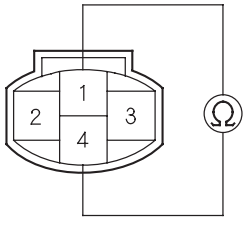
YES—Go to step 8.

NO—Check the connection of under-hood fuse/relay box connector H (18P) No. 3 terminal. If the connection is OK, replace the under-hood fuse/relay box (see page 22-72). ■

8. Disconnect a jumper wire, and turn the ignition switch OFF.

9. Check for continuity between the A/C pressure switch No. 1 and No. 4 terminals.

A/C PRESSURE SWITCH



Is there continuity?

YES—Go to step 10.

NO—Go to step 19.

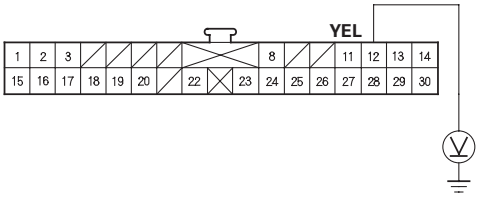
10. Reconnect the A/C pressure switch 4P connector.

11. Disconnect the HVAC control unit 30P connector.

12. Turn the ignition switch ON (II).

13. Measure the voltage between the HVAC control unit 30P connector No. 12 terminal and body ground.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there 5 V or more?

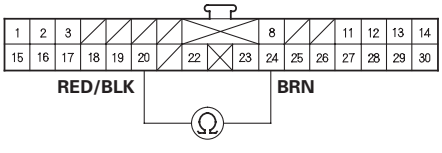
YES—Go to step 14.

NO—Repair the open in the wire between the HVAC control unit and the A/C pressure switch. ■

14. Turn the ignition switch OFF.

15. Measure the evaporator temperature sensor resistance between the HVAC control unit 30P connector No. 20 and No. 24 terminals.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is the resistance less than 24 kΩ ?

YES—Go to step 16.

NO—Test the evaporator temperature sensor (see page 21-53). ■

16. Reconnect the HVAC control unit 30P connector.

17. Turn the ignition switch ON (II).

18. Check that blower motor operates at all speeds.

    Does the blower motor operate at all speeds?

    YES—Check for loose wires or poor connections at the HVAC control unit 30P connector and at the A/C pressure switch 4P connector. If the connections are good, substitute a known-good HVAC control unit and recheck. If the symptom/indication goes away, replace the original HVAC control unit. ■

    NO—Repair the problem in the blower motor circuit. ■

19. Check for proper A/C system pressure.

    Is the pressure within specifications?

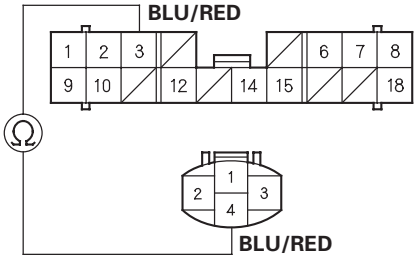
    YES—Replace the A/C pressure switch. ■

    NO—Repair the A/C pressure problem. ■

20. Disconnect under-hood relay box connector H (18P).

21. Check for continuity between the A/C pressure switch connector No. 4 terminal and under-hood relay box connector H (18P) No. 3 terminal.

UNDER-HOOD RELAY BOX CONNECTOR H (18P)
Wire side of female terminals



A/C PRESSURE SWITCH 4P CONNECTOR
Wire side of female terminals

    Is there continuity?

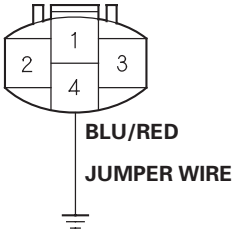
    YES—Go to step 22.

    NO—Repair open in the wire between the relay control module and the A/C pressure switch. ■

22. Reconnect under-hood relay box connector H (18P).

23. Connect the A/C pressure switch connector No. 4 terminal to body ground with the jumper wire.

A/C PRESSURE SWITCH 4P CONNECTOR



Wire side of female terminals

24. Start the engine.

    Do the A/C compressor and fans come on?

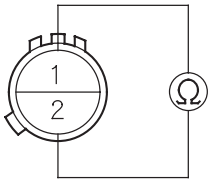
    YES—Replace the relay control module. ■

    NO—Check for loose wires or poor connections. If the connections are good, check the grounds. If the grounds are good, replace the relay control module. ■

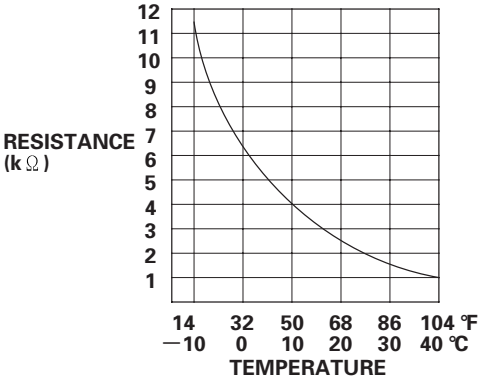
Outside Air Temperature Sensor Test

1. Remove the outside air temperature sensor (see page 21-52).
2. Dip the sensor in ice water, and measure the resistance. Then pour warm water on the sensor, and check for a change in resistance.
3. Compare the resistance reading between the No. 1 and No. 2 terminals of the outside air temperature sensor with the specifications shown in the graph; the resistance should be within the specifications.

OUTSIDE AIR TEMPERATURE SENSOR



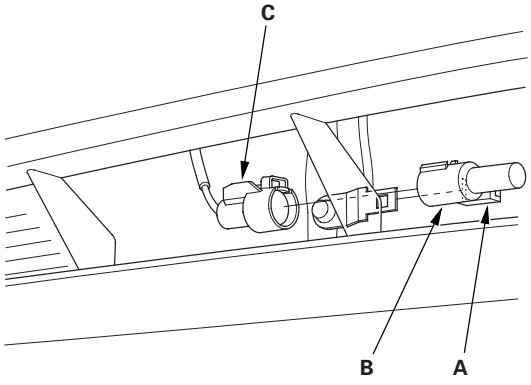
Terminal side of male terminals



4. If the resistance is not as specified, replace the out side air temperature sensor (see page 21-52).

Outside Air Temperature Sensor Replacement

1. Lift the tab (A) to release the lock, then remove the outside air temperature sensor (B) from the bulkhead bracket. Disconnect the 2P connector (C) from the outside air temperature sensor.

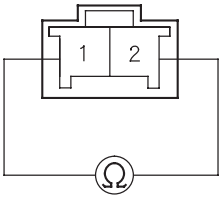


2. Install the sensor in the reverse order of removal.

Evaporator Temperature Sensor Test

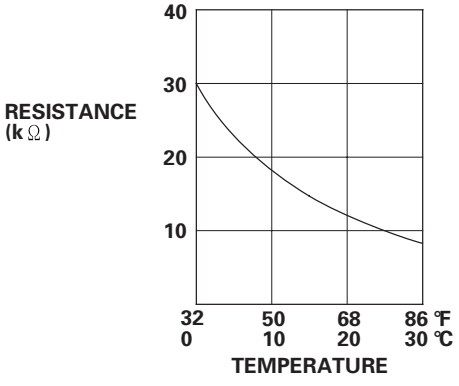
1. Remove the evaporator temperature sensor (see page 21-53).
2. Dip the sensor in ice water, and measure the resistance between its terminals.

EVAPORATOR TEMPERATURE SENSOR



Terminal side of male terminals

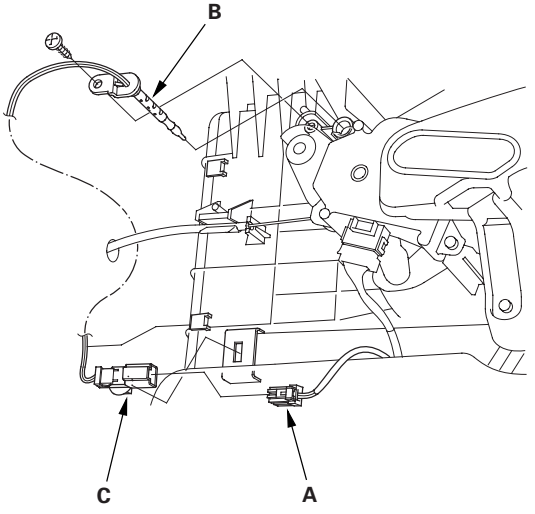
3. Then pour warm water on the sensor, and check for a change in resistance.
4. Compare the resistance readings with the specifications shown in the graph; the resistance should be within the specifications.



5. If the resistance is not as specified, replace the evaporator temperature sensor (see page 21-53).

Evaporator Temperature Sensor Replacement

1. Remove the driver's dashboard lower cover (see page 20-83).
2. Disconnect the 2P connector (A) from the evaporator temperature sensor (B), then remove the connector clip (C). Remove the self-tapping screw, and carefully pull out the evaporator temperature sensor.



3. Install the sensor in the reverse order of removal.

Power Transistor Test

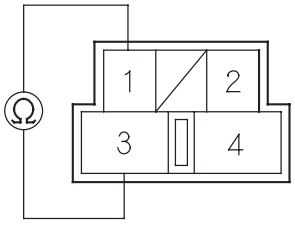
1. Disconnect the 4P connector from the power transistor.

2. Measure the resistance between the No. 1 and No. 3 terminals of the power transistor. It should be about 1.5 kΩ.

   - If the resistance is within the specifications, go to step 3.
   - If the resistance is not within the specifications, replace the power transistor.

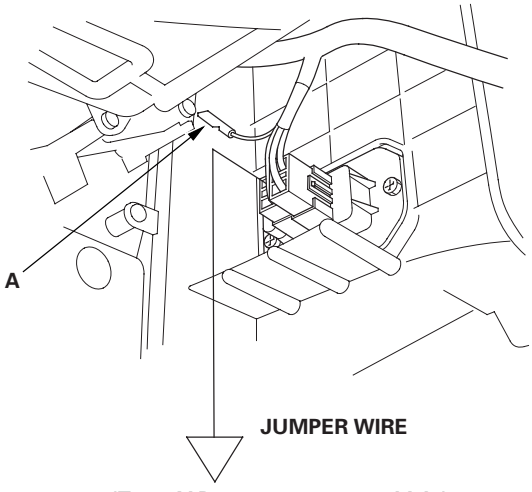
   NOTE: Also check the blower motor. Power transistor failure can be caused by a defective blower motor.

POWER TRANSISTOR



Terminal side of male terminals

3. Carefully release the lock tab on the No. 2 terminal (BLU/YEL) (A) in the 4P connector, then remove the terminal and insulate it from body ground.



4. Reconnect the 4P connector to the power transistor.

5. Make sure the BLU/YEL wire is completely isolated, then supply 12 V to the No. 2 cavity with a jumper wire.

6. Turn the ignition switch ON (II), and check that the blower motor runs.

   - If the blower motor does not run, replace the power transistor.
   - If the blower motor runs, the power transistor is OK.

Air Mix Control Motor Test

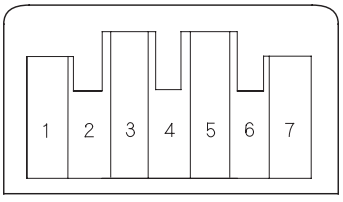
NOTE: Before testing, check for HVAC DTCs (see page 21-8).

1. Disconnect the 7P connector from the air mix control motor.

   NOTICE
   Incorrectly applying power and ground to the air mix control motor will damage it. Follow the instructions carefully.

2. Connect battery power to the No. 1 terminal of the air mix control motor, and ground the No. 2 terminal; the air mix control motor should run, and stop at Max Cool. If it doesn't, reverse the connections; the air mix control motor should run, and stop at Max Hot. When the air mix control motor stops running, disconnect battery power immediately.

AIR MIX CONTROL MOTOR



3. If the air mix control motor did not run in step 2, remove it, then check the air mix control linkage and door for smooth movement.

   - If the linkage and door move smoothly, replace the air mix control motor (see page 21-55).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the air mix control motor runs smoothly, go to step 4.

4. Measure the resistance between the No. 5 and No. 7 terminals. It should be between 4.2 to 7.8 kΩ.

5. Reconnect the air mix control motor 7P connector, then turn the ignition switch ON (II).

6. Using the backprobe set, measure the voltage between the No. 3 and No. 7 terminals.

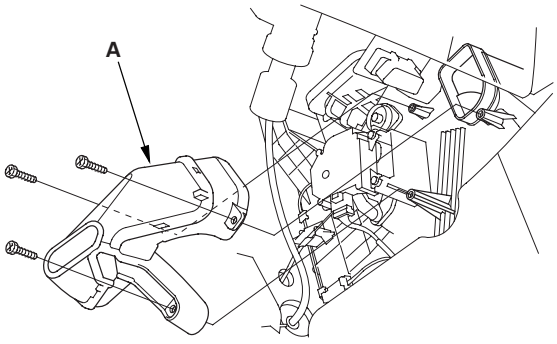
   Max Cool: About 0.5 V
   Max Hot: About 4.5 V

7. If either the resistance or voltage readings are not as specified, replace the air mix control motor (see page 21-55).

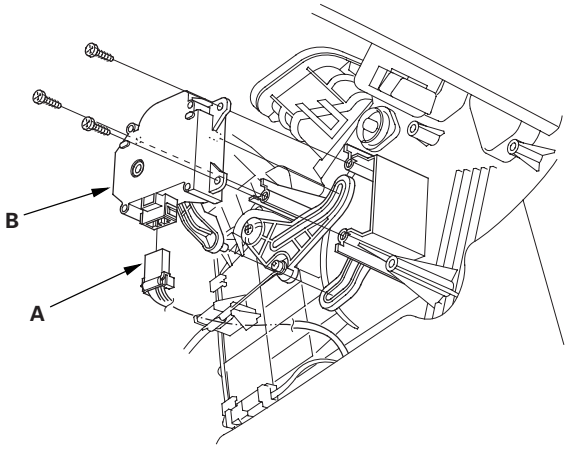
Air Mix Control Motor Replacement

1. Remove the driver's dashboard lower cover (see page 20-83).

2. Remove the self-tapping screws and the duct (A).



3. Disconnect the 7P connector (A) from the air mix control motor (B). Remove the self-tapping screws and the air mix control motor from the heater unit.



4. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

Mode Control Motor Test

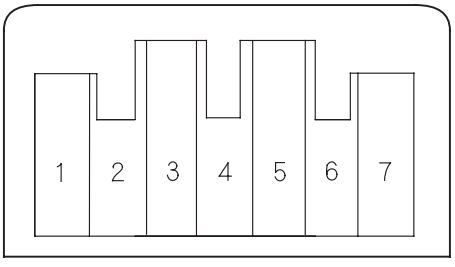
NOTE: Before testing, check for HVAC DTCs (see page 21-8).

1. Disconnect the 7P connector from the mode control motor.

   NOTICE
   Incorrectly applying power and ground to the mode control motor will damage it. Follow the instructions carefully.

2. Connect battery power to the No. 1 terminal of the mode control motor, and ground the No. 2 terminal; the mode control motor should run smoothly, and stop at Vent. If it doesn't, reverse the connections; the mode control motor should run smoothly, and stop at Defrost. When the mode control motor stops running, disconnect battery power immediately.

MODE CONTROL MOTOR



3. If the mode control motor did not run in step 2, remove it, then check the mode control linkage and doors for smooth movement.

   - If the linkage and doors move smoothly, replace the mode control motor (see page 21-56).
   - If the linkage or doors stick or bind, repair them as needed.
   - If the mode control motor runs smoothly, go to step 4.

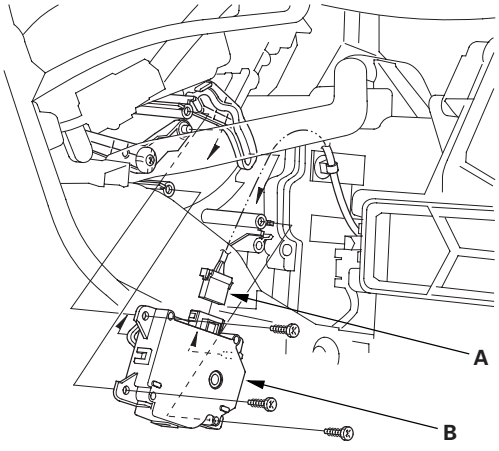
4. Use a digital multimeter with an output of 1 mA or less at the 20 kΩ range. With the mode control motor running as in step 2, check for continuity between the No. 3, 4, 5, and 6 terminals and the No. 7 terminal individually. There should be continuity for a moment at each terminal as the motor moves past the switch's terminal.

5. If there is no continuity for a moment at each terminal, replace the mode control motor (see page 21-56).

Mode Control Motor Replacement

1. Open the glove box. Remove the damper and the glove box stop on each side, then let the glove box hang down (see page 20-85).

2. Disconnect the 7P connector (A) from the mode control motor (B). Remove the self-tapping screws and the mode control motor from the heater unit.



3. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

Recirculation Control Motor Test

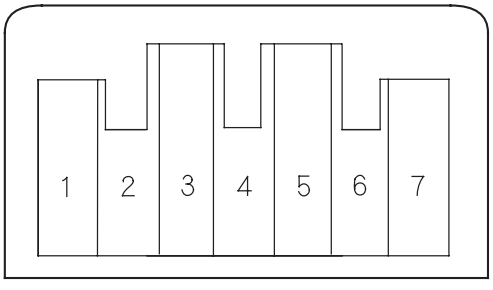
NOTE: Before testing, check for HVAC DTCs (see page 21-8).

1. Disconnect the 7P connector from the recirculation control motor.

   NOTICE
   Incorrectly applying power and ground to the recirculation control motor will damage it. Follow the instructions carefully.

2. Connect battery power to the No. 1 terminal of the recirculation control motor, and ground the No. 5 and No. 7 terminals; the recirculation control motor should run smoothly. To avoid damaging the recirculation control motor, do not reverse power and ground. Disconnect the No. 5 or No. 7 terminals from ground; the recirculation control motor should stop at Fresh (when the No. 7 terminal is disconnected) or Recirculate (when the No. 5 terminal is disconnected). Don't cycle the recirculation control motor for a long time.

RECIRCULATION CONTROL MOTOR



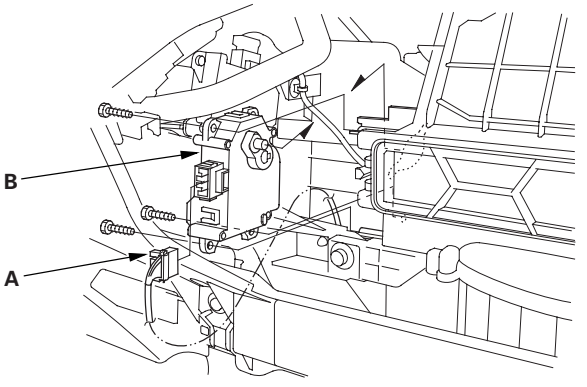
3. If the recirculation control motor did not run in step 2, remove it, then check the recirculation control linkage and door for smooth movement.

   - If the linkage and door move smoothly, replace the recirculation control motor (see page 21-57).
   - If the linkage or door stick or bind, repair them as needed.

Recirculation Control Motor Replacement

1. Open the glove box. Remove the damper and the glove box stop on each side, then let the glove box hang down (see page 20-85).

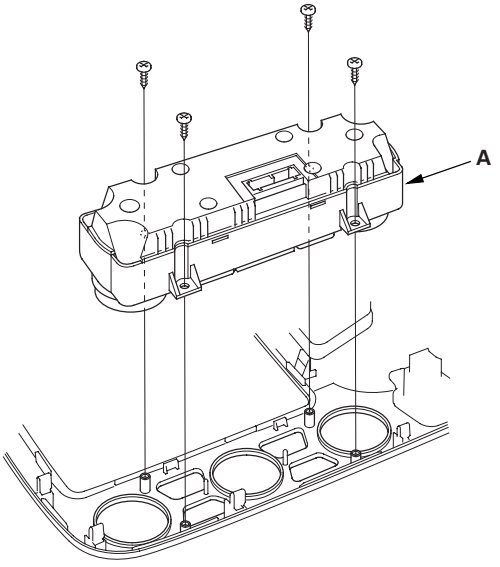
2. Disconnect the 7P connector (A) from the recirculation control motor (B). Remove the self-tapping screws and the recirculation control motor from the blower unit.



3. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

HVAC Control Unit Removal/ Installation

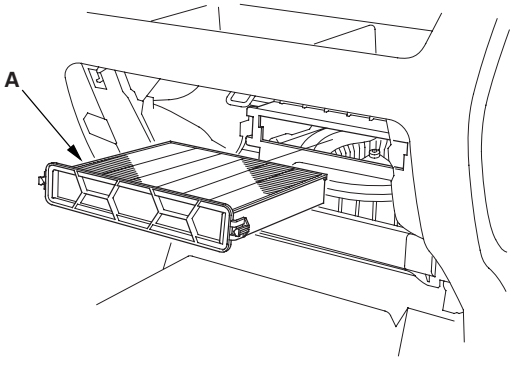
1. Remove the instrument panel (see page 20-81).
2. Remove the self-tapping screws, and the HVAC control unit (A).



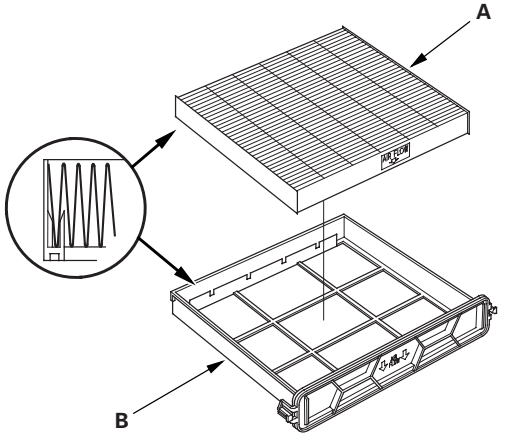
3. Install the control unit in the reverse order of removal. After installation, operate the various functions to make sure they work properly.
4. Run the self-diagnosis function to confirm that there are no problems in the system (see page 21-8).

Dust and Pollen Filter Replacement

1. Open the glove box. Remove the damper and the glove box stop on each side, then let the glove box hang down (see page 20-85).
2. Remove the dust and pollen filter assembly (A) from the evaporator.



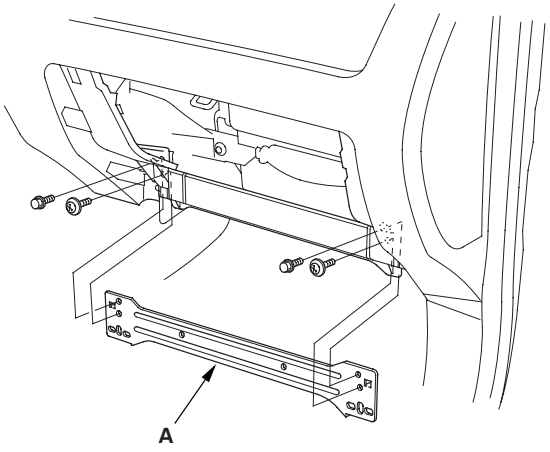
3. Remove the filter (A) from the housing (B), and replace the filter.



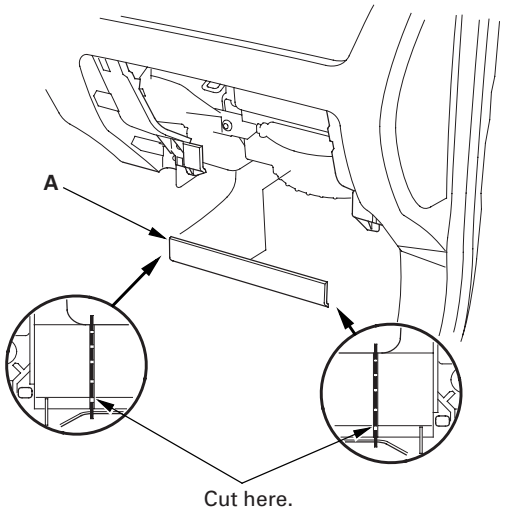
4. Install the filter in the reverse order of removal. Make sure that there is no air leaking out of the evaporator.

Blower Unit Removal/Installation

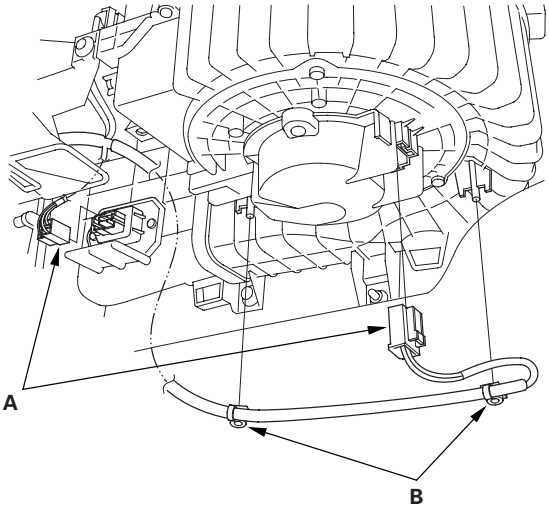
1. Remove the glove box housing (see page 20-85).
2. Remove the bolts and the glove box frame (A).



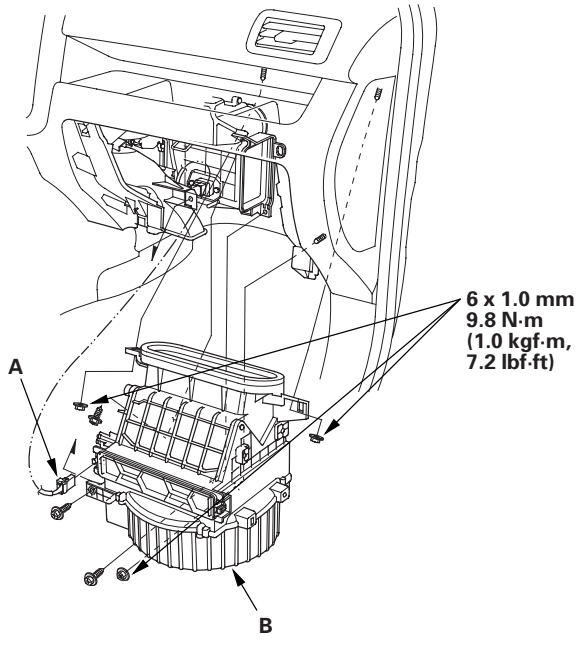
3. Cut the plastic cross brace (A) in the glove box opening with diagonal cutters in the area shown, and discard it.



4. Disconnect the connectors (A) from the blower motor and the power transistor, then remove the wire harness clips (B).



5. Disconnect the connector (A) from the recirculation control motor, then remove the self-tapping screws, the mounting nuts, and the blower unit (B).

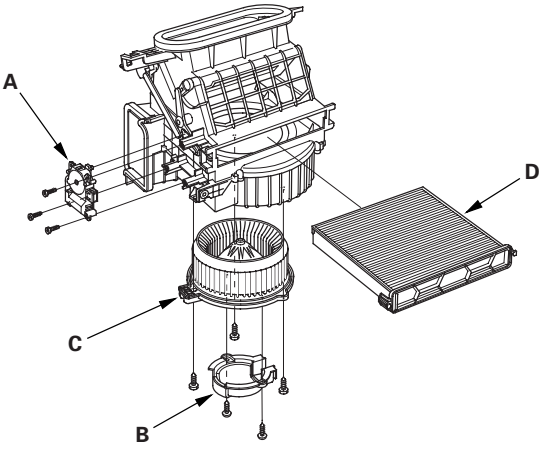


6. Install the unit in the reverse order of removal. Make sure that there is no air leakage.

Blower Unit Component Replacement

Note these items when overhauling the blower unit:

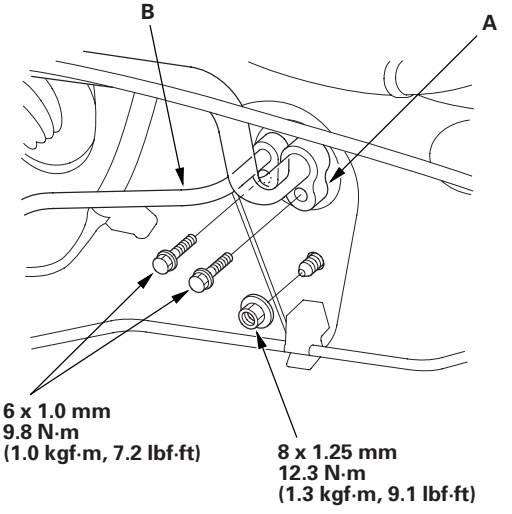
- The recirculation control motor (A), the blower motor cover (B), blower motor (C), and the dust and pollen filter (D) can be replaced without removing the blower unit.
- Before reassembly, make sure that the recirculation control linkage and door move smoothly without binding.
- After reassembly, make sure the recirculation control motor runs smoothly (see page 21-57).



Evaporator Core Replacement

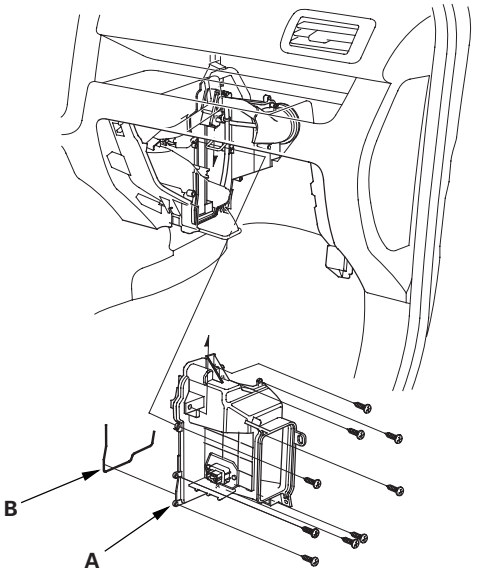
1. Recover the refrigerant with a recovery/recycling/charging station (see page 21-73).

2. Remove the bolts and nut, then disconnect the suction line (A) and the receiver line A (B) from the evaporator core.

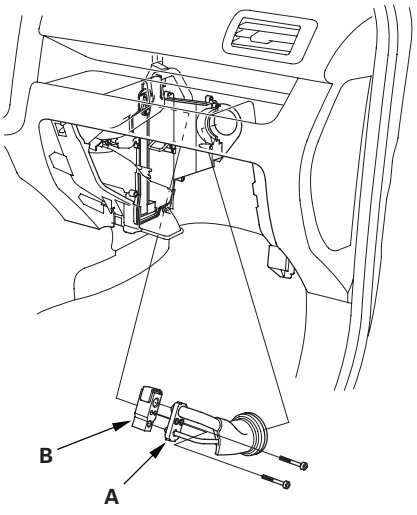


3. Remove the blower unit (see page 21-59).

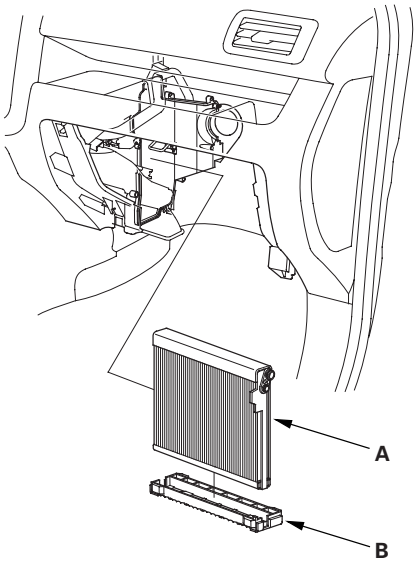
4. Remove the self-tapping screws, the joint duct (A) and the seal (B).



5. Remove the bolts, inlet and outlet pipes (A), and expansion valve (B).



6. Carefully pull out the evaporator core (A) and the plate (B).



7. Install the core in the reverse order of removal, and note these items:

   - If you're installing a new evaporator core, add refrigerant oil (DENSO ND-OIL 8) (see page 21-6).
   - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
   - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
   - Make sure that there is no air leakage.
   - Charge the system (see page 21-75).

Heater Unit/Core Replacement

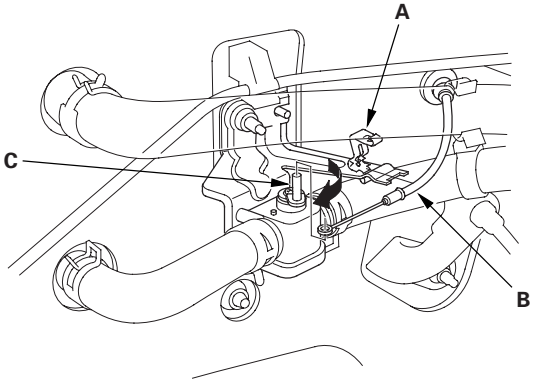
SRS components are located in this area. Review the SRS component locations (see page 24-14) and the precautions and procedures (see page 24-16) before repairing or servicing.

1. Make sure you have the anti-theft code for the audio or the navigation system, then write down the audio presets.

2. Make sure the ignition is OFF, then disconnect the negative cable from the battery.

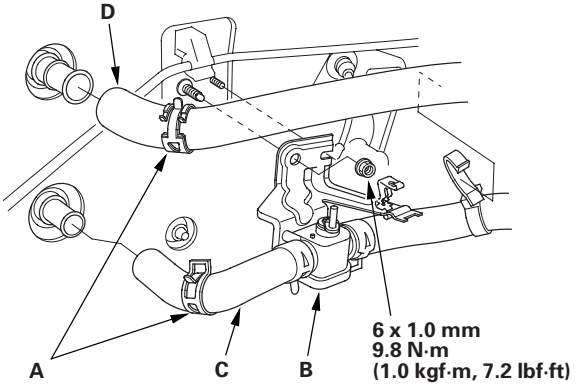
3. Disconnect the suction and receiver lines from the evaporator core (see page 21-60).

4. From under the hood, open the cable clamp (A), then disconnect the heater valve cable (B) from the heater valve arm (C). Turn the heater valve arm to the fully opened position as shown.

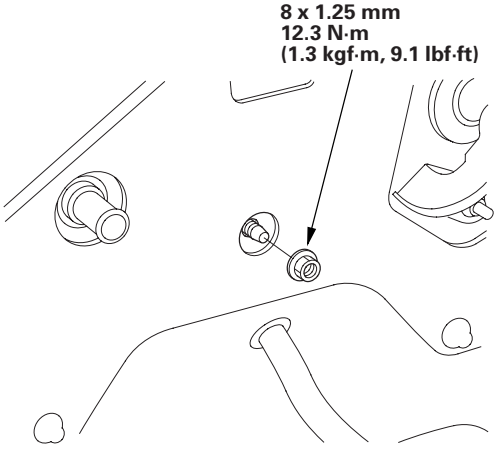


5. When the engine is cool, drain the engine coolant from the radiator (see page 10-6).

6. Slide the hose clamps (A) back. Remove the nut and the water valve (B), then disconnect the inlet heater hose (C) and the outlet heater hose (D) from the heater unit. Engine coolant will run out when the hoses are disconnected; drain it into a clean drip pan. Be sure not to let coolant spill on the electrical parts or the painted surfaces. If any coolant spills, rinse it off immediately.

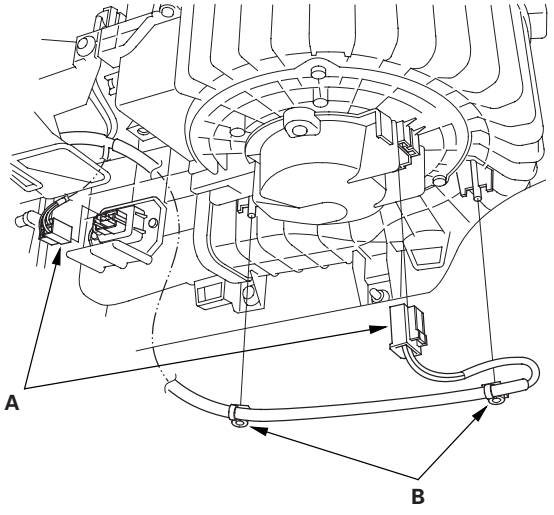


7. Remove the mounting nut from the heater unit. Take care not to damage or bend the fuel lines and the brake lines, etc.

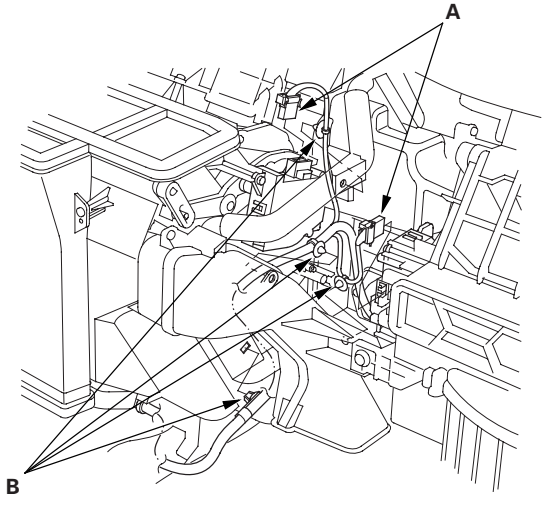


8. Remove the dashboard (see page 20-89).

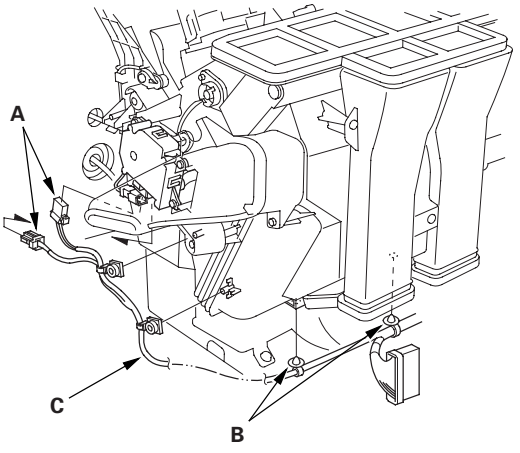
9. Disconnect the connectors (A) from the blower motor and the power transistor, then remove the wire harness clips (B).



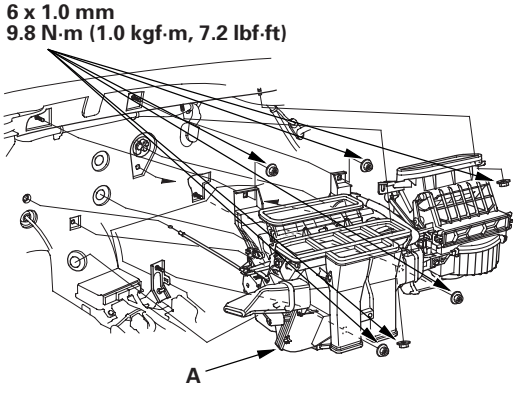
10. Disconnect the connectors (A) from the mode control motor and the recirculation control motor, then remove the wire harness clips (B).



11. Disconnect the connectors (A) from the evaporator sensor and the air mix control motor, then remove the wire harness clips (B) and the wire harness (C).



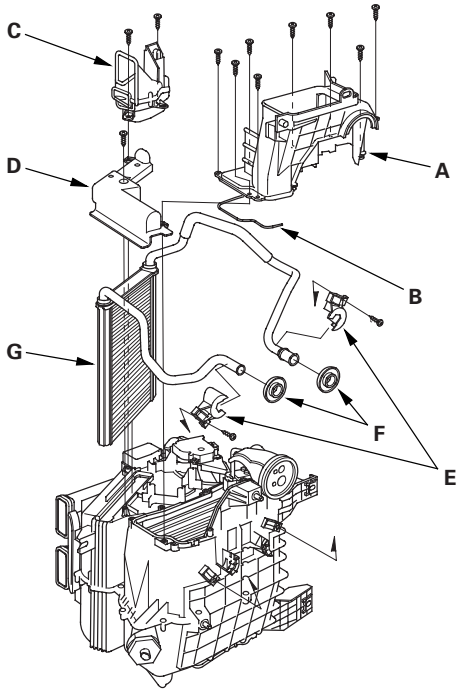
12. Remove the mounting nuts and the blower-heater unit (A).



(cont'd)

Heater Unit/Core Replacement (cont'd)

13. Remove the self-tapping screws, the joint duct (A), and seal (B). Remove the self-tapping screws, then remove the passenger's heater outlet (C), and the heater core cover (D). Remove the self-tapping screws, the heater pipe brackets (E), the grommets (F), and carefully pull out the heater core (G) so you don't bend the inlet and outlet pipes.



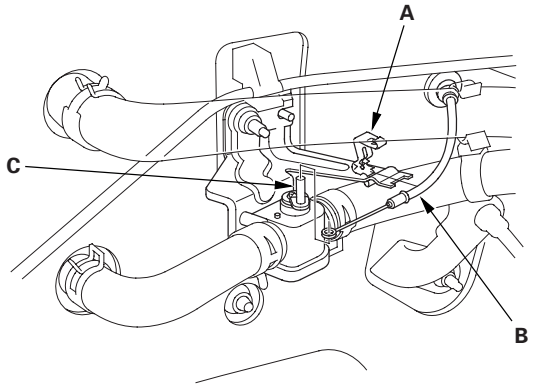
14. Install the heater core in the reverse order of removal.

15. Install the heater unit in the reverse order of removal, and note these items:

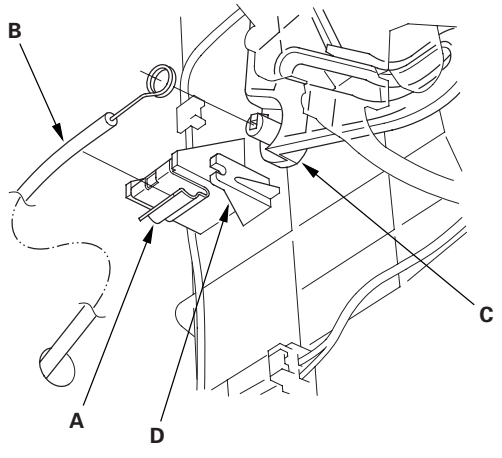
    - Do not interchange the inlet and outlet heater hoses, and install the hose clamps securely.
    - Refill the cooling system with engine coolant (see page 10-6).
    - Adjust the heater valve cable (see page 21-65).
    - Make sure that there is no coolant leakage.
    - Make sure that there is no air leakage.
    - Refer to evaporator core replacement (see page 21-60).
    - Reset the power window control unit (see page 22-209).
    - Enter the anti-theft code for the audio or the navigation system, then enter the audio presets.
    - Set the clock.

Heater Valve Cable Adjustment

1. From under the hood, open the cable clamp (A), then disconnect the heater valve cable (B) from the heater valve arm (C).



2. From under the dash, disconnect the heater valve cable housing from the cable clamp (A), and disconnect the heater valve cable (B) from the air mix control linkage (C).

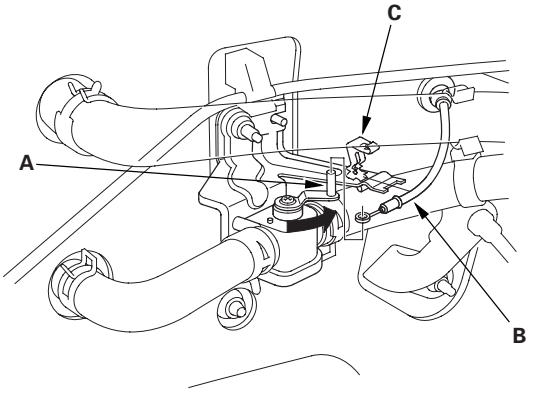


3. Set the temperature control dial to Max Cool (Lo) with the ignition switch ON (II).

4. Attach the heater valve cable to the air mix control linkage as shown step 2. Hold the end of the heater valve cable housing against the stop (D), then snap the heater valve cable housing into the cable clamp.

   NOTE: Make sure the ring-end of the cable is pushed all the way to the base of the pin on air mix control linkage.

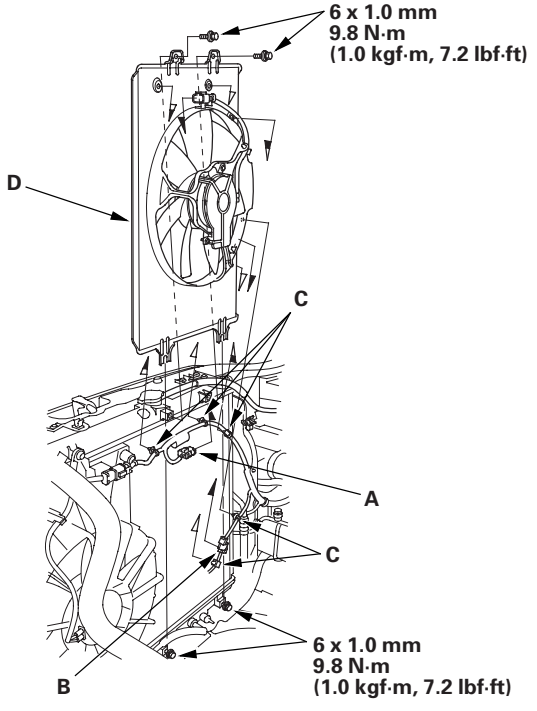
5. From under the hood, turn the heater valve arm (A) to the fully closed position as shown, and hold it. Attach the heater valve cable (B) to the heater valve arm, and gently pull on the heater valve cable housing to take up any slack, then install the heater valve cable housing into the cable clamp (C).



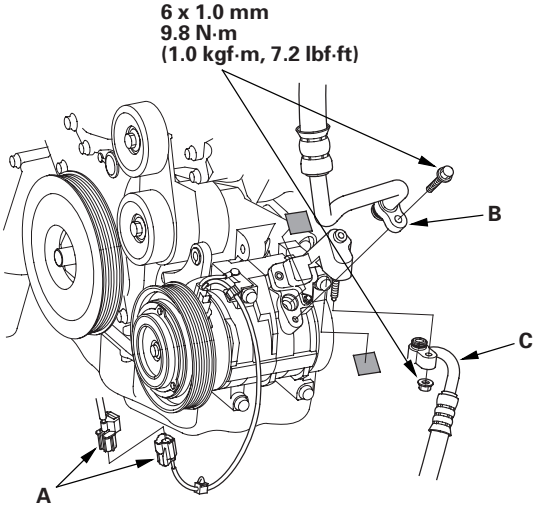
A/C Compressor Replacement

NOTE: Do not install the A/C compressor into a system unless you are completely sure that the system is free of contamination. Installing the A/C compressor into a contaminated system can result in premature A/C compressor failure.

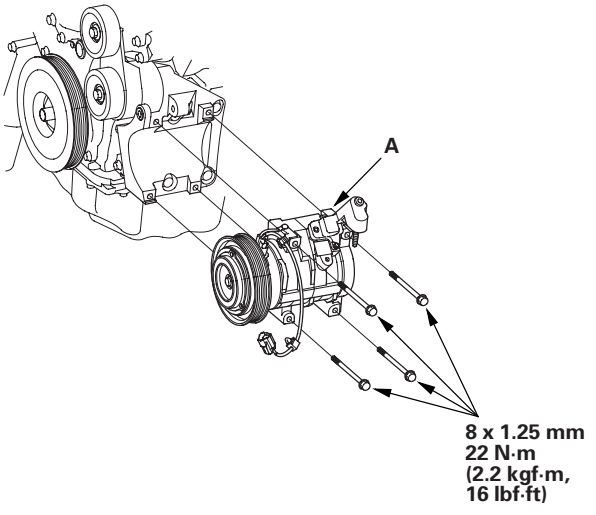
1. If the A/C compressor is marginally operable, run the engine at idle speed, and let the air conditioning work for a few minutes, then shut the engine off.
2. Recover the refrigerant with a recovery/recycling/charging station (see page 21-73).
3. Make sure you have the anti-theft code for the audio or the navigation system, then write down the audio presets.
4. Remove the alternator (see page 4-34).
5. Disconnect the A/C condenser fan connector (A), then remove the A/C compressor clutch connector (B) and the wire harness clips (C). Loosen the lower mounting bolt, then remove the upper mounting bolts and the condenser fan shroud (D). Be careful not to damage the radiator fins when removing the condenser fan shroud.



6. Disconnect the connector (A) from the A/C compressor clutch. Remove the bolt and the nut, then disconnect the suction hose (B) and the discharge hose (C) from the A/C compressor. Plug or cap the hoses immediately after disconnecting them to avoid moisture and dust contamination.



7. Remove the mounting bolts and the A/C compressor (A). Be careful not to damage the radiator fins when removing the A/C compressor.



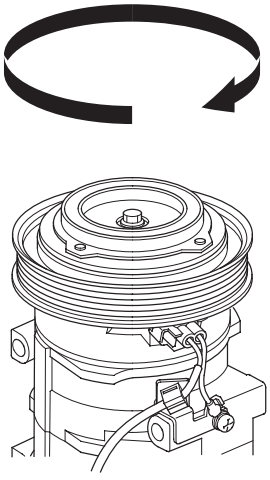
8. Install the compressor in the reverse order of removal, and note these items:

   - Inspect the A/C lines for any signs of contamination.
   - If you're installing a new A/C compressor, you must calculate the amount of refrigerant oil to be removed from it (see page 21-6). A new A/C compressor comes with a full charge of oil.
   - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Use refrigerant oil (DENSO ND-OIL 8) for HFC-134a DENSO piston type A/C compressor only.
   - To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
   - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
   - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
   - Charge the system (see page 21-75).
   - Reset the power window control unit (see page 22-209).
   - Enter the anti-theft code for the audio or the navigation system, then enter the audio presets.
   - Set the clock.

A/C Compressor Clutch Check

1. Check the pressure plate for discoloration, peeling, or other damage. If there is damage, replace the clutch set (see page 21-69).

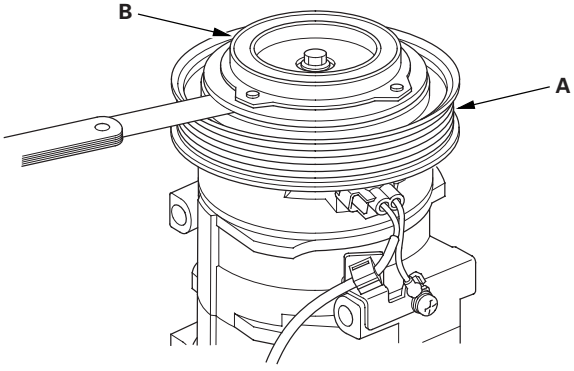
2. Check the pulley bearing play and drag by rotating the pulley by hand. Replace the clutch set with a new one if it is noisy or has excessive play/drag (see page 21-69).



3. Measure the clearance between the pulley (A) and the pressure plate (B) all the way around. If the clearance is not within specified limits, remove the pressure plate (see page 21-69) and add or remove shims as needed to increase or decrease clearance.

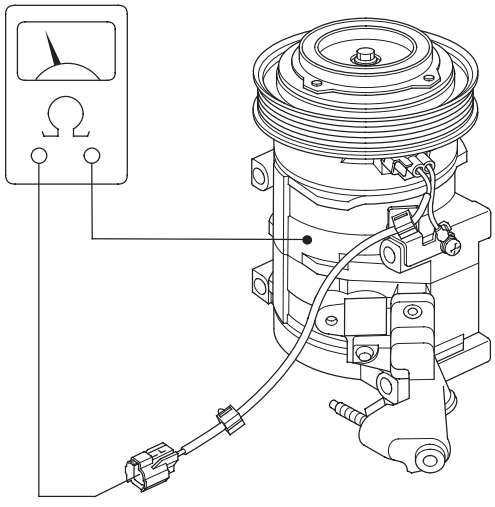
   Clearance: 0.35—0.60 mm (0.014—0.024 in.)

   NOTE: The shims are available in three thicknesses: 0.1 mm, 0.3 mm, and 0.5 mm.



4. Check the resistance of the field coil. If resistance is not within specifications, replace the field coil (see page 21-69).

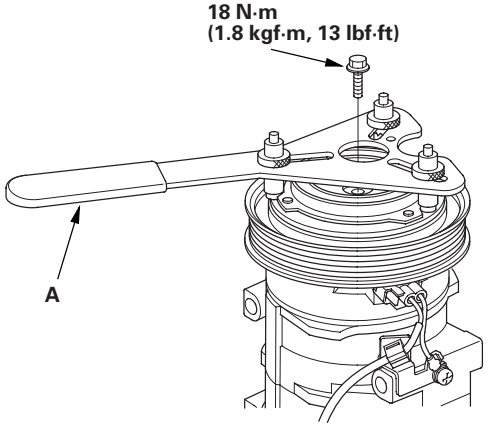
   Field Coil Resistance: 3.9—4.3 Ω at 68 ℉ (20 ℃)



A/C Compressor Clutch Overhaul

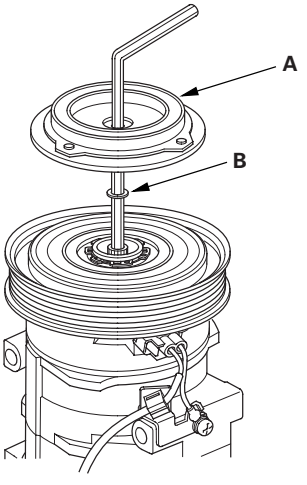
Special Tools Required
A/C clutch holder, Robinair 10204 or Kent-Moore J37872, or Honda Tool and Equipment KMT-J33939, commercially available

1. Remove the center bolt while holding the pressure plate with a commercially available A/C clutch holder (A).

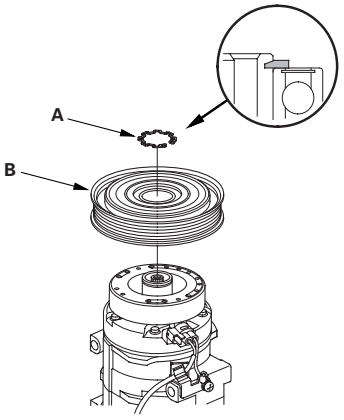


2. Remove the pressure plate (A) and shim(s) (B), taking care not to lose the shim(s). If the clutch needs adjustment, increase or decrease the number and thickness of shims as necessary, then reinstall the pressure plate, and recheck its clearance (see page 21-68).

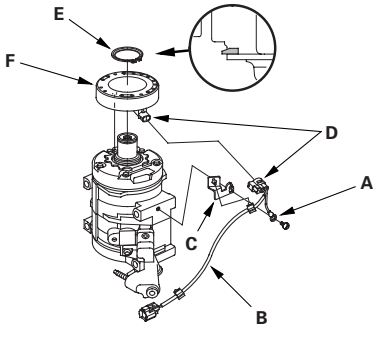
   NOTE: The shims are available in three thicknesses: 0.1 mm, 0.3 mm, and 0.5 mm.



3. If you are replacing the field coil, remove the snap ring (A) with snap ring pliers, then remove the pulley (B). Be careful not to damage the pulley or the A/C compressor.



4. Remove the screw from the field coil ground terminal (A), then remove the wire harness (B) and the bracket (C). Disconnect the field coil connector (D). Remove the snap ring (E) with snap ring pliers, then remove the field coil (F). Be careful not to damage the field coil or the A/C compressor.

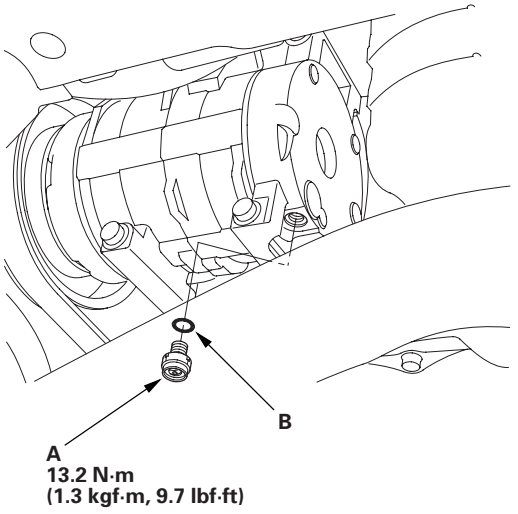


5. Reassemble the clutch in the reverse order of disassembly, and note these items:

   - Install the field coil with the wire side facing down, and align the boss on the field coil with the hole in the A/C compressor.
   - Clean the pulley and A/C compressor sliding surfaces with contact cleaner or other non-petroleum solvent.
   - Install new snap rings, note the installation direction, and make sure they are fully seated in the groove.
   - Make sure that the pulley turns smoothly after it's reassembled.
   - Route and clamp the wires properly or they can be damaged by the pulley.

A/C Compressor Relief Valve Replacement

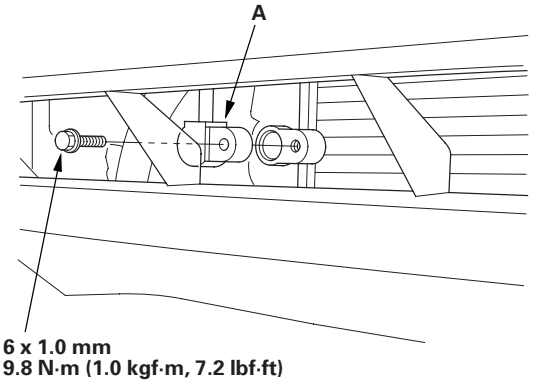
1. Recover the refrigerant with a recovery/recycling/charging station (see page 21-73).
2. Remove the relief valve (A) and the O-ring (B). Plug the opening to keep foreign matter from entering the system and the A/C compressor oil from running out.



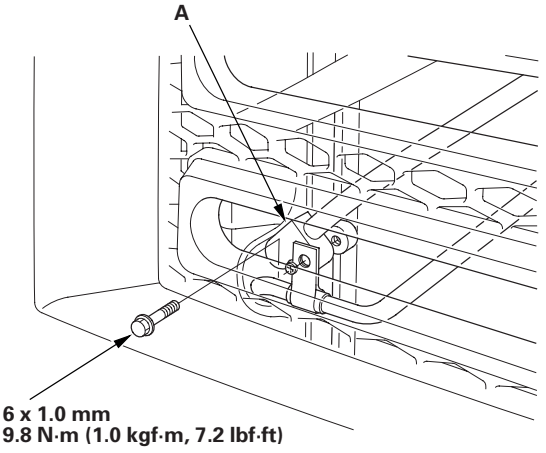
3. Clean the mating surfaces.
4. Replace the O-ring with a new one, and apply a thin coat of refrigerant oil before installing it.
5. Remove the plug, and install and tighten the relief valve.
6. Charge the system (see page 21-75).

A/C Condenser Replacement

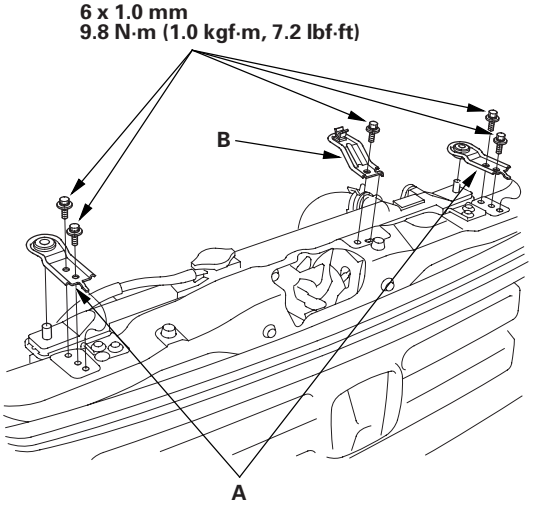
1. Recover the refrigerant with a recovery/recycling charging station (see page 21-73).
2. Remove the front bulkhead cover (see page 20-171).
3. Remove the bolt, then disconnect the receiver line B (A) from the A/C condenser.



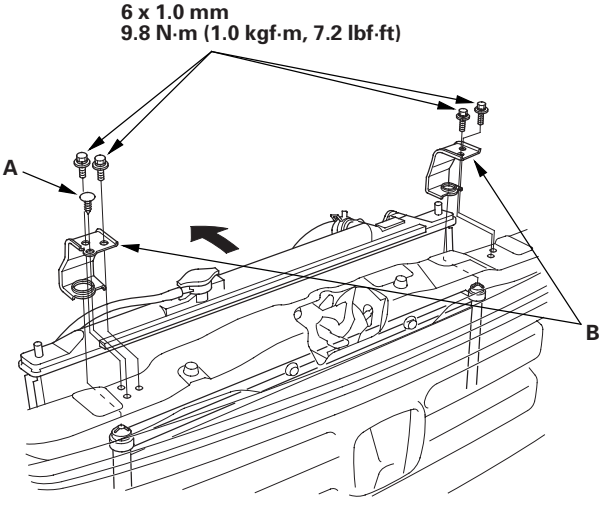
4. Remove the bolts, then disconnect the discharge hose (A) from the A/C condenser.



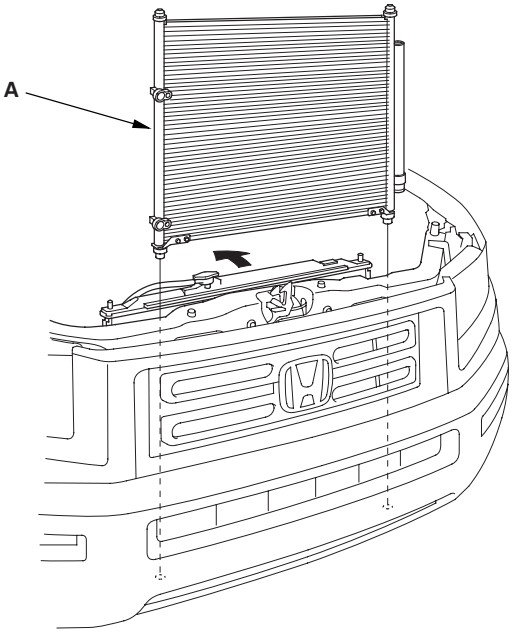
5. Remove the bolts, the radiator upper mount brackets (A), and the hood opener bracket (B).



6. Remove the clip (A), the bolts, and the A/C condenser upper mount brackets (B).



7. Remove the A/C condenser (A) by lifting it up. Be careful not to damage the radiator and A/C condenser fins when removing the A/C condenser.



(cont'd)

A/C Condenser Replacement (cont'd)

8. Install the A/C condenser in the reverse order of removal, and note these items:

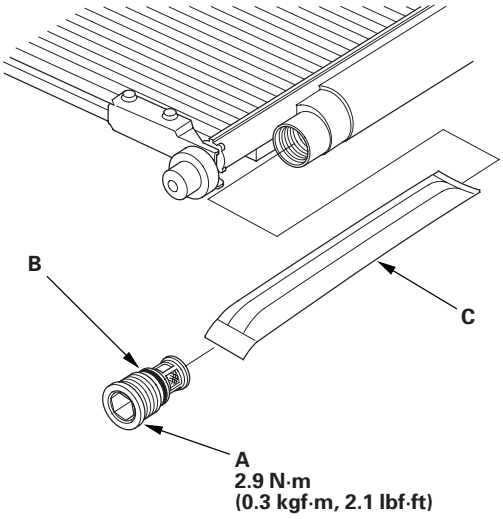
   - If you're installing a new A/C condenser, add refrigerant oil (DENSO ND-OIL 8) (see page 21-6).
   - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
   - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
   - Charge the system (see page 21-75).

Receiver/Dryer Desiccant Replacement

NOTE: Install the receiver/dryer as quickly as possible to prevent the system from absorbing moisture from the air.

1. Remove the A/C condenser (see page 21-70).

2. Remove the cap (A) from the bottom of the A/C condenser. Remove the O-ring (B) and the desiccant (C).



3. Install the receiver/dryer in the reverse order of removal, and note these items:

   - Replace the O-rings with new ones, and apply a thin coat of refrigerant oil (DENSO ND-OIL 8) before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Install the cap to the specified torque. It is made of resin a can be easily stripped.

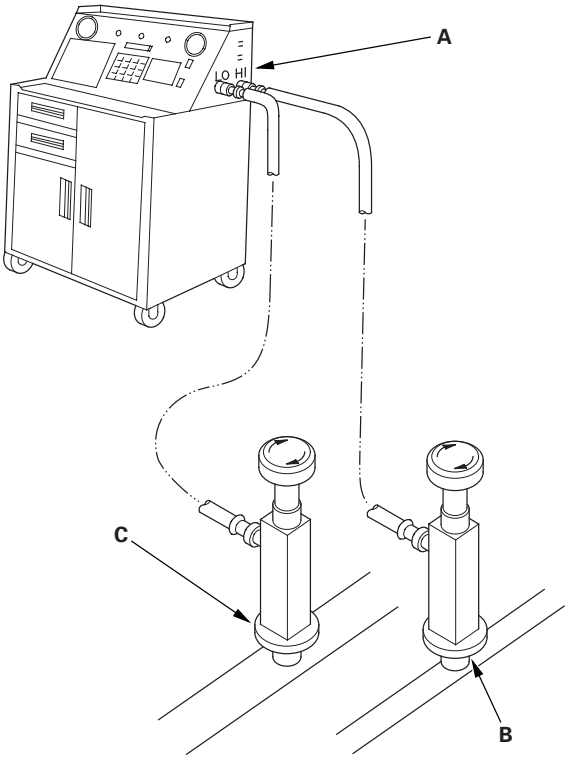
Refrigerant Recovery

⚠CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

NOTE:
- If accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions.



2. Measure the amount of refrigerant oil removed from the A/C system after the recovery process is completed. Be sure to put the same amount of new refrigerant oil back into the A/C system before charging.

System Evacuation

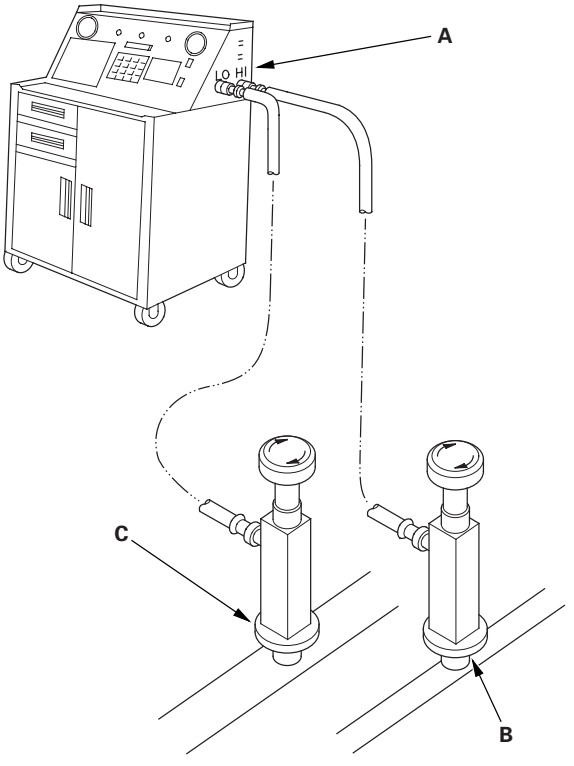
⚠CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

NOTE:
- If accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. When an A/C system has been opened to the atmosphere, such as during installation or repair, it must be evacuated using an R-134a refrigerant recovery/recycling/charging station. If the system has been open for several days, the receiver/dryer should be replaced, and the system should be evacuated for several hours.

2. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions. Evacuate the system.



3. If the low-pressure does not reach more than 93.3 kPa (700 mmHg, 27.6 in.Hg) in 15 minutes, there is probably a leak in the system. Partially charge the system, and check for leaks (see step 3 on page 21-76).

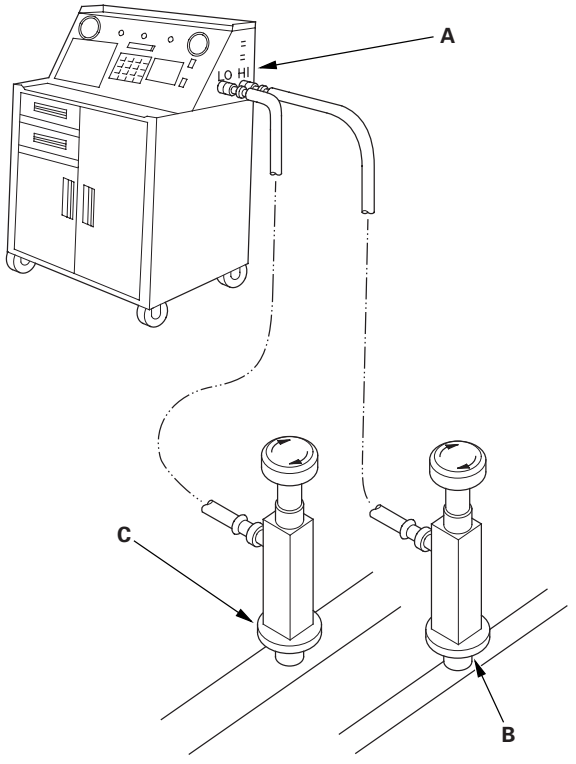
System Charging

⚠CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

NOTE:
- If accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions.



2. Evacuate the system (see page 21-74).

3. Add the same amount of new refrigerant oil to the system that was removed during recovery. Use only DENSO ND-OIL 8 refrigerant oil.

4. Charge the system with the specified amount of R-134a refrigerant. Do not overcharge the system; the A/C compressor will be damaged.

   Select the appropriate units of measure for your refrigerant charging station.

   Refrigerant Capacity:
   600 to 650 g
   0.6 to 0.65 kg
   1.3 to 1.4 lbs
   20.3 to 22.0 oz

5. Check for refrigerant leaks (see page 21-76).

6. Check the system performance (see page 21-77).

Refrigerant Leak Test

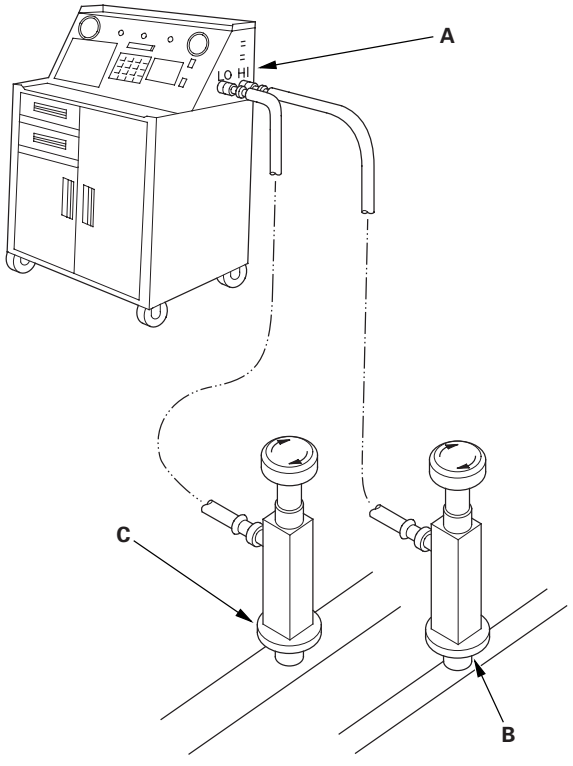
Special Tools Required
Leak detector, Honda Tool and Equipment YGK-H-10PM or commercially available

⚠CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

NOTE:
- If accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions.



2. Open the high pressure valve to charge the system to the specified capacity, then close the supply valve, and disconnect the charging station fittings.

   Select the appropriate units of measurement for your refrigerant charging station.

   Refrigerant Capacity:
   600 to 650 g
   0.6 to 0.65 kg
   1.3 to 1.4 lbs
   20.3 to 22.0 oz

3. Check the system for leaks using an R-134a refrigerant leak detector with an accuracy of 14 g (0.5 oz) per year or better.

4. If you find leaks that require the system to be opened (to repair or replace hoses, fittings, etc.), do the refrigerant recovery.

5. After checking and repairing leaks, the system must be evacuated.

A/C System Test

Performance Test

⚠CAUTION

- Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.
- Be careful when connecting service equipment.
- Do not breathe refrigerant or vapor.

The performance test will help determine if the A/C system is operating within specifications.

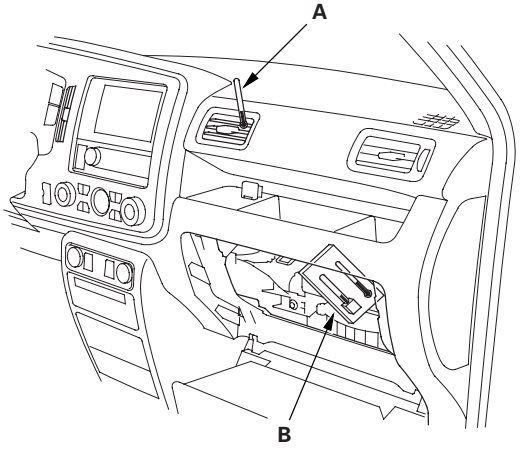
NOTE:
- If accidental system discharge occurs, ventilate the work area before resuming service.
- Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

1. Connect an R-134a refrigerant recovery/recycling/charging station to the high-pressure service port and the low-pressure service port, following the equipment manufacturer's instructions.

2. Determine the relative humidity and air temperature.

3. Open the glove box. Remove the damper and the glove box stop on each side, then let the glove box hang down (see page 20-85).

4. Insert a thermometer (A) in the center vent.



5. Place a thermometer (B) near the blower unit's recirculation inlet duct.

6. Test conditions:

   - Avoid direct sunlight.
   - Open hood.
   - Open front doors.
   - Set the temperature control dial to Max Cool, the mode control switch to Vent, and the recirculation control switch to Recirculate.
   - Turn the A/C switch ON and the fan switch to Max.
   - Run the engine at 1,500 rpm.
   - No driver or passengers in vehicle.

7. After running the air conditioning for 10 minutes under the above test conditions, read the delivery temperature from the thermometer in the center vent, the intake temperature near the blower unit, and the discharge (high) and suction (low) pressures on the A/C gauges.

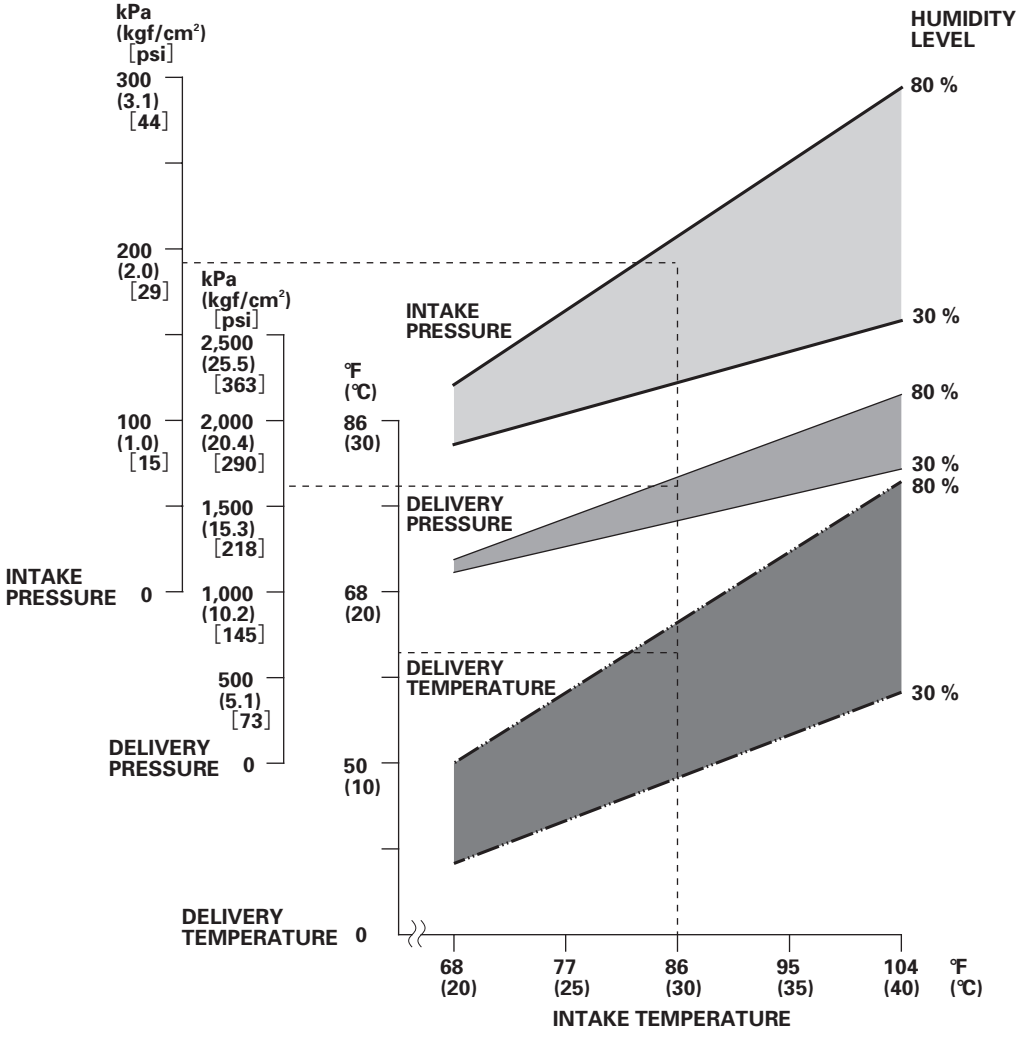
(cont'd)

A/C System Test (cont'd)

8. Refer to the inspection data.

Inspection data

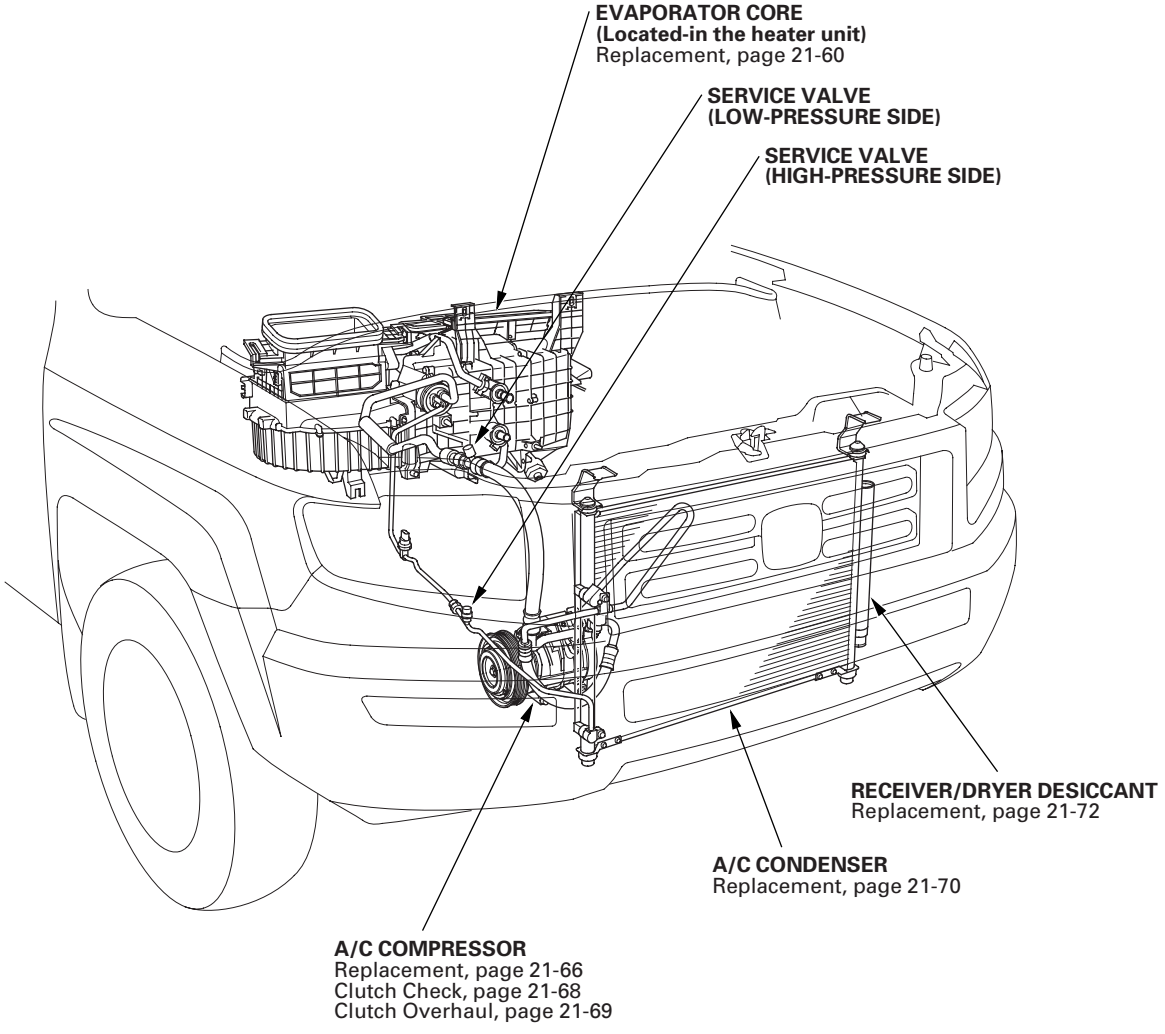
Example	**Intake temperature (dry):**	**86 ℉ (30 ℃) Humidity level 70 %**
	Intake temperature (wet):	**77.9 ℉ (25.5 ℃)**
	Delivery temperature:	**62.0 ℉ (16.6 ℃)**
	Delivery pressure:	**1,636 kPa (16.7 kgf/cm²) [237 psi]**
	Intake pressure:	**192 kPa (2.0 kgf/cm²) [28 psi]**
Results:	**Within normal range**	

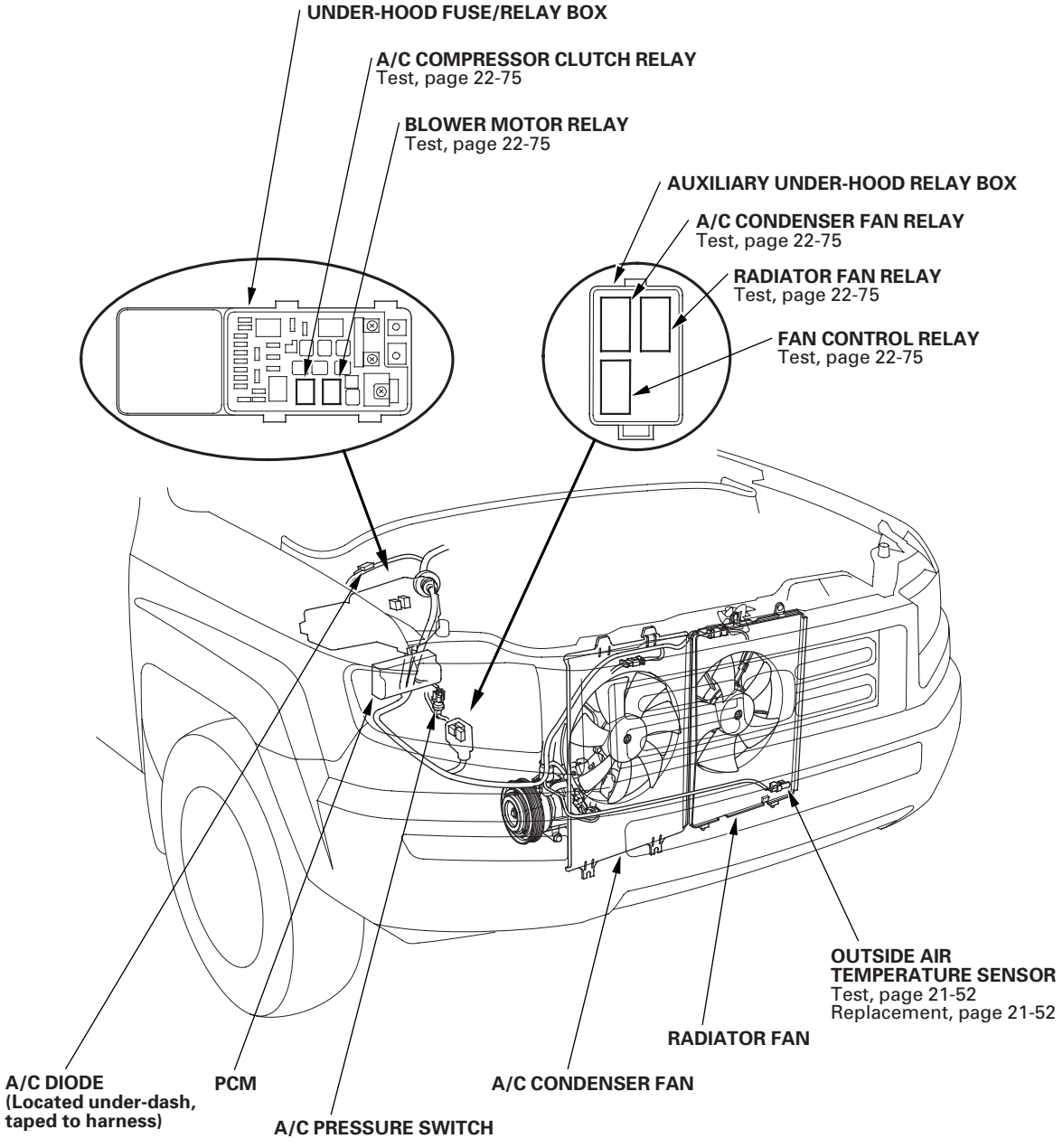


Pressure Test

Test results	Related symptoms	Probable cause	Remedy
Discharge (high) pressure abnormally high	After stopping A/C compressor, pressure drops about 196 kPa (2.0 kgf/cm^2, 28 psi) quickly, and then falls gradually.	Air in system	Recover, evacuate (see page 21-73), and recharge with specified amount (see page 21-75).
	Reduced or no airflow through A/C condenser.	• Clogged condenser or radiator fins • A/C condenser or radiator fan not working properly	• Clean. • Check voltage and fan rpm. • Check fan direction.
	Line to A/C condenser is excessively hot.	Restricted flow of refrigerant in system	Restricted lines.
Discharge pressure abnormally low	High and low-pressures are balanced soon after stopping A/C compressor. Low side is higher than normal.	• Faulty A/C compressor discharge valve • Faulty A/C compressor seal	Replace the A/C compressor.
	Outlet of expansion valve is not frosted, low-pressure gauge indicates vacuum.	• Faulty expansion valve • Moisture in system	• Replace. • Recover, evacuate, and recharge with specified amount.
Suction (low) pressure abnormally low	Expansion valve is not frosted, and low-pressure line is not cold. Low-pressure gauge indicates vacuum.	• Frozen expansion valve (Moisture in system) • Faulty expansion valve	• Recover, evacuate, and recharge with specified amount. • Replace the expansion valve.
	Discharge temperature is low, and the airflow from vents is restricted.	Frozen evaporator	Run the fan with A/C compressor off, then check evaporator temperature sensor.
	Expansion valve is frosted.	Clogged expansion valve	Clean or replace.
Suction pressure abnormally high	Low-pressure hose and check joint are cooler than the temperature around evaporator.	Expansion valve open too long	Repair or replace.
	Suction pressure is lowered when A/C condenser is cooled by water.	Excessive refrigerant in system	Recover, evacuate, and recharge with specified amount.
	High and low-pressures are equalized as soon as the A/C compressor is stopped, and both gauges fluctuate while running.	• Faulty gasket • Faulty high-pressure valve • Foreign particle stuck in high-pressure valve	Replace the A/C compressor.
Suction and discharge pressures abnormally high	Reduced airflow through A/C condenser.	• Clogged A/C condenser or radiator fins • A/C condenser or radiator fan not working properly	• Clean. • Check voltage and fan rpm. • Check fan direction.
Suction and discharge pressures abnormally low	Low-pressure hose and metal end areas are cooler than evaporator.	Clogged or kinked low-pressure hose parts	Repair or replace.
	Temperature around expansion valve is too low compared with that around receiver/dryer.	Clogged high-pressure line	Repair or replace.
Refrigerant leaks	A/C compressor clutch is dirty.	A/C compressor shaft seal leaking	Replace the A/C compressor.
	A/C compressor bolt(s) are dirty.	Leaking around bolt(s)	Tighten bolt(s) or replace A/C compressor.
	A/C compressor gasket is wet with oil.	Gasket leaking	Replace the A/C compressor.
	A/C fitting is dirty.	Leaking O-ring	Clean the A/C fitting and replace the O-ring.

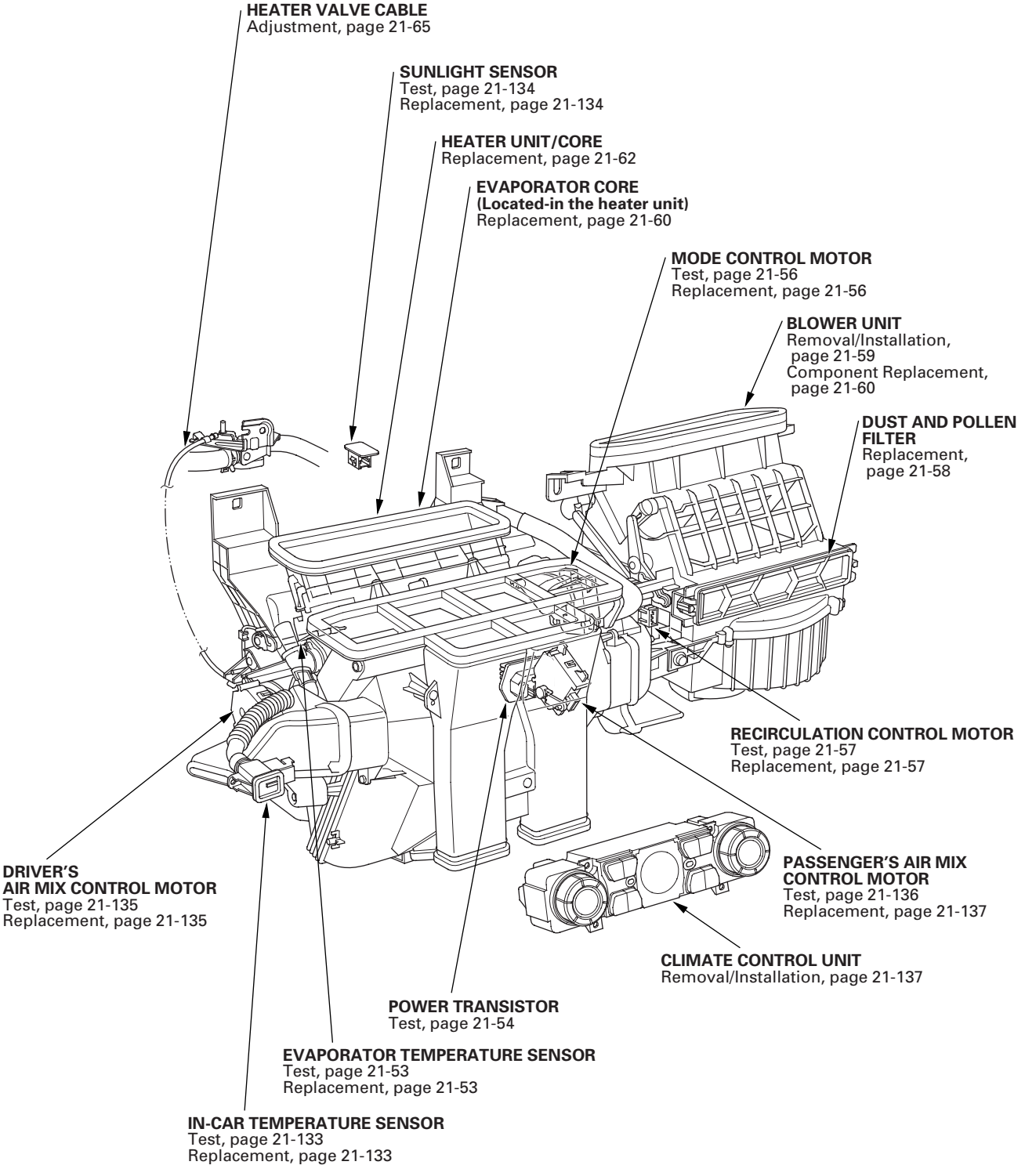
Component Location Index




UNDER-HOOD FUSE/RELAY BOX
A/C COMPRESSOR CLUTCH RELAY
Test, page 22-75
BLOWER MOTOR RELAY
Test, page 22-75
AUXILIARY UNDER-HOOD RELAY BOX
A/C CONDENSER FAN RELAY
Test, page 22-75
RADIATOR FAN RELAY
Test, page 22-75
FAN CONTROL RELAY
Test, page 22-75
OUTSIDE AIR TEMPERATURE SENSOR
Test, page 21-52
Replacement, page 21-52
RADIATOR FAN
A/C DIODE
(Located under-dash, taped to harness)
PCM
A/C PRESSURE SWITCH
A/C CONDENSER FAN

(cont'd)

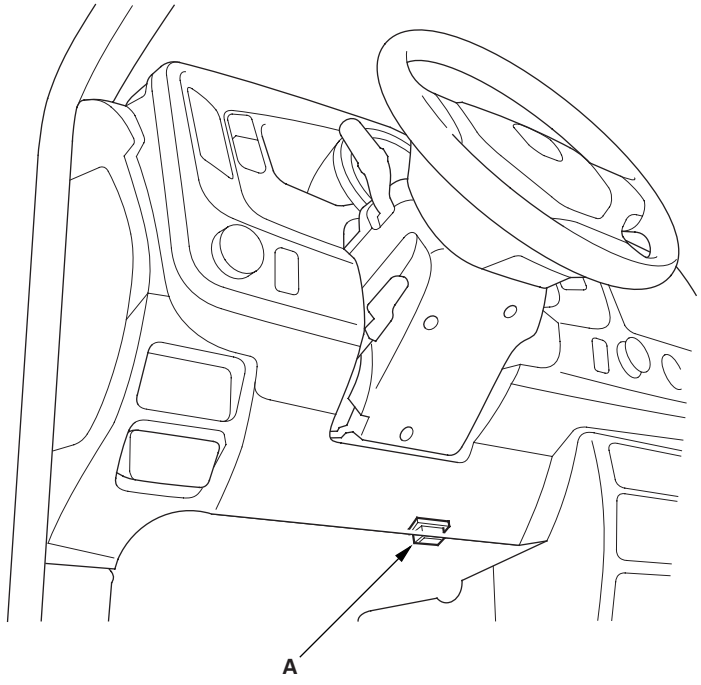
Component Location Index (cont'd)



General Troubleshooting Information

How to Check for DTCs with the HDS

1. Make sure the ignition switch is OFF.
2. Connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.



3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the climate control unit. If it doesn't, troubleshoot the DLC circuit (see page 11-194).
5. Select HVAC/CLIMATE CONTROL in the BODY ELECTRICAL menu.
6. Select DTCs in the HVAC/CLIMATE CONTROL menu.
7. Check for DTCs. If any DTCs are indicated, write down the DTCs, then go to the indicated DTC troubleshooting. If no DTCs are indicated, refer to symptom troubleshooting.

   NOTE:
   - After troubleshooting, clear the DTCs with the HDS.
   - For specific operations, refer to the user's manual that came with the HDS.

(cont'd)

General Troubleshooting Information (cont'd)

How to Use the Self-diagnostic Function without the HDS

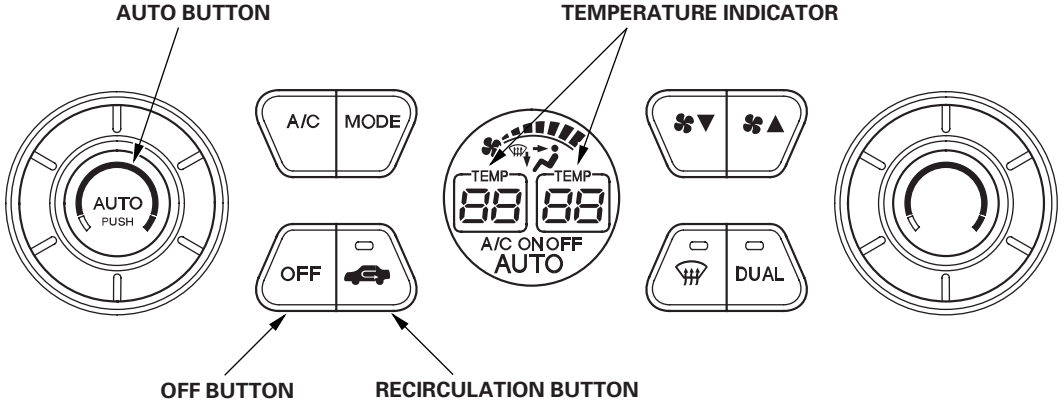
The climate control unit has a self-diagnostic function. To run the self-diagnostic function, do the following.

NOTE: Before troubleshooting the climate control system, refer to B-CAN System Diagnosis Test Mode A Troubleshooting (see page 22-99), and the communication circuit self-diagnostic function test.

1. Turn the ignition switch OFF, and then ON (II).

2. Press and hold the OFF button. While holding the OFF button, press the recirculation button five times within 10 seconds. Release the OFF button, then the self-diagnostic begins. Wait for about one minute for the self-diagnostic to complete.

   NOTE: The blower motor will run various speeds regardless of what the panel is displaying.



- If there is any problem in the system, the temperature indicator will light up the segment (A through Q) corresponding to the error. The temperature indicator will then alternate every second between displaying ''88'' (all segments lit) and the error code segment (A through Q). To determine the meaning of the DTC, refer to checking for DTCs.
- If there are no problems detected, the segments will not illuminate, and the system will appear to be turned off.

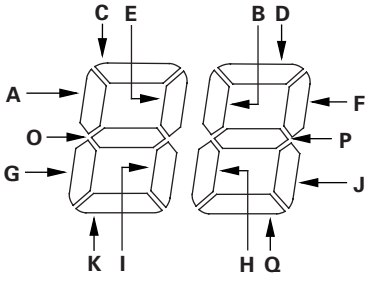
Canceling the Self-diagnostic Function

3. Turn the ignition switch OFF to cancel the self-diagnostic function. After completing repair work, run the self-diagnostic function again to make sure that there are no other malfunctions.

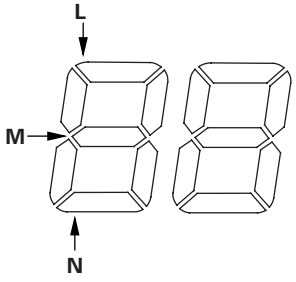
Checking for DTCs

The temperature display indicates single or multiple DTCs. If indicator segments A, C, E, G, I, L, and O are on at the same time, there may be an open in the common ground wire. If no DTCs are present, the indicator remains blank.

DRIVER'S SIDE TEMPERATURE INDICATOR



PASSENGER'S SIDE TEMPERATURE INDICATOR



DTC (Temperature Indicator Segment)	Detection Item
A	An open in the in-car temperature sensor circuit (see page 21-101)
B	A short in the in-car temperature sensor circuit (see page 21-103)
C	An open in the outside air temperature sensor circuit (see page 21-104)
D	A short in the outside air temperature sensor circuit (see page 21-105)
E	An open in the sunlight sensor circuit (see page 21-106)
F	A short in the sunlight sensor circuit (see page 21-107)
G	An open in the evaporator temperature sensor circuit (see page 21-108)
H	A short in the evaporator temperature sensor circuit (see page 21-110)
I	An open in the driver's air mix control motor circuit (see page 21-111)
J	A short in the driver's air mix control motor circuit (see page 21-112)
K	A problem in the driver's air mix control linkage, door, or motor (see page 21-113)
L	An open in the passenger's air mix control motor circuit (see page 21-115)
M	A short in the passenger's air mix control motor circuit (see page 21-116)
N	A problem in the passenger's air mix control linkage, door, or motor (see page 21-117)
O	An open or short in the mode control motor circuit (see page 21-119)
P	A problem in the mode control linkage, doors, or motor (see page 21-121)
Q	A problem in the blower motor circuit (see page 21-122)

(cont'd)

General Troubleshooting Information (cont'd)

Displaying Sensor Inputs at the Climate Control Unit

The climate control unit has a mode that displays sensor inputs it receives. This mode shows you what the climate control unit is receiving from each of the sensors, one at a time, and it can help you determine if a sensor is faulty.

Check these items before using the sensor input display mode

1. Turn the ignition switch ON (II), and check the recirculation door function; press the recirculation button to switch from FRESH to RECIRC. The air volume and sound should change slightly.

2. Set the temperature control knob to the desired test temperature. When selecting the test temperature, note these items:

   - ''Lo'' temperature setting will default to MAX COOL, VENT, and RECIRC.
   - ''Hi'' temperature setting will default to MAX HOT, FLOOR, and FRESH.
   - 58 through 86 ℉ settings will use the automatic climate control logic.

3. Turn the ignition switch OFF.

To run the sensor input display mode, follow these steps

1. Turn the ignition switch OFF.

2. Press and hold both the AUTO and recirculation buttons, then start the engine.

3. After the engine starts, release the buttons. The display panel control unit will flash the sensor number and then the value for that sensor. Record the value displayed.

4. To advance to the next sensor, press the recirculation button.

Sensor	Item	Displayed Value
1	In-car Temperature	℃
2	Outside Air Temperature	℃
3	Solar Radiation Sensor Value: Dark = 00, Flashlight = 04, Cloudy =10, Sunny =65	10 kcal/m^2·h
4	Engine Coolant Temperature	℃
5	Evaporator Outlet Air Temperature	℃
6	Driver's Air Mix Opening (Low value indicates cooler air distribution, higher value indicates warmer air distribution)	% of opening
7	Passenger's Air Mix Opening (Low value indicates cooler air distribution, higher value indicates warmer air distribution)	% of opening
8	Vehicle Speed (Vehicle must be driven to display speed)	km/h
9	Driver's Vent Temperature Air Out (TAO-Dr)	℃

NOTE:
- The sensor values will be displayed in degrees Celsius (℃) or an alphanumeric code. Use the chart to convert the value to degrees Fahrenheit (℉).
- If the sensor value displays ''Er'' this indicates there is an open or short in the circuit or sensor. Check for DTCs using the HDS, or refer to checking DTCs by DTC indication.
- If necessary, compare the sensor input display to a like, known-good vehicle under the same test conditions.
- If the sensor is out of the normal range, refer to the sensor test or substitute a known-good sensor, and recheck.

5. To cancel the sensor input display mode, press the AUTO button or turn the ignition switch OFF.

Celsius to Fahrenheit Conversion Table

℃	℉	℃	℉	℃	℉	℃	℉	℃	℉
0	32	10	50	20	68	30	86	40	104
1	34	11	52	21	70	31	88	41	106
2	36	12	54	22	72	32	90	42	108
3	37	13	55	23	73	33	91	43	109
4	39	14	57	24	75	34	93	44	111
5	41	15	59	25	77	35	95	45	113
6	43	16	61	26	79	36	97	46	115
7	45	17	63	27	81	37	99	47	117
8	46	18	64	28	82	38	100	48	118
9	48	19	66	29	84	39	102	49	120

℃	℉	℃	℉	℃	℉	℃	℉	℃	℉
50	122	60	140	70	158	80	176	90	194
51	124	61	142	71	160	81	178	91	196
52	126	62	144	72	162	82	180	92	198
53	127	63	145	73	163	83	181	93	199
54	128	64	147	74	165	84	183	94	201
55	131	65	149	75	167	85	185	95	203
56	133	66	151	76	169	86	187	96	205
57	135	67	152	77	170	87	188	97	207
58	136	68	154	78	172	88	190	98	208
59	139	69	158	79	174	89	192	99	210

Alphanumeric Conversion Table

Display Reading (Alphanumeric)	℃	℉	%
A1 thru A9	−1 thru −9	30 thru 16	−1 thru −9
B0 thru B9	−10 thru −19	14 thru −2	−10 thru −19
C0 thru C9	−20 thru −29	−4 thru −20	−20 thru −29
D0 thru D9	−30 thru −39	−22 thru −38	−30 thru −39
E0 thru E9	−40 thru −49	−40 thru −58	———
F0 thru F9	———	———	+100 thru +109

DTC Troubleshooting Index

Checking the DTCs by HDS

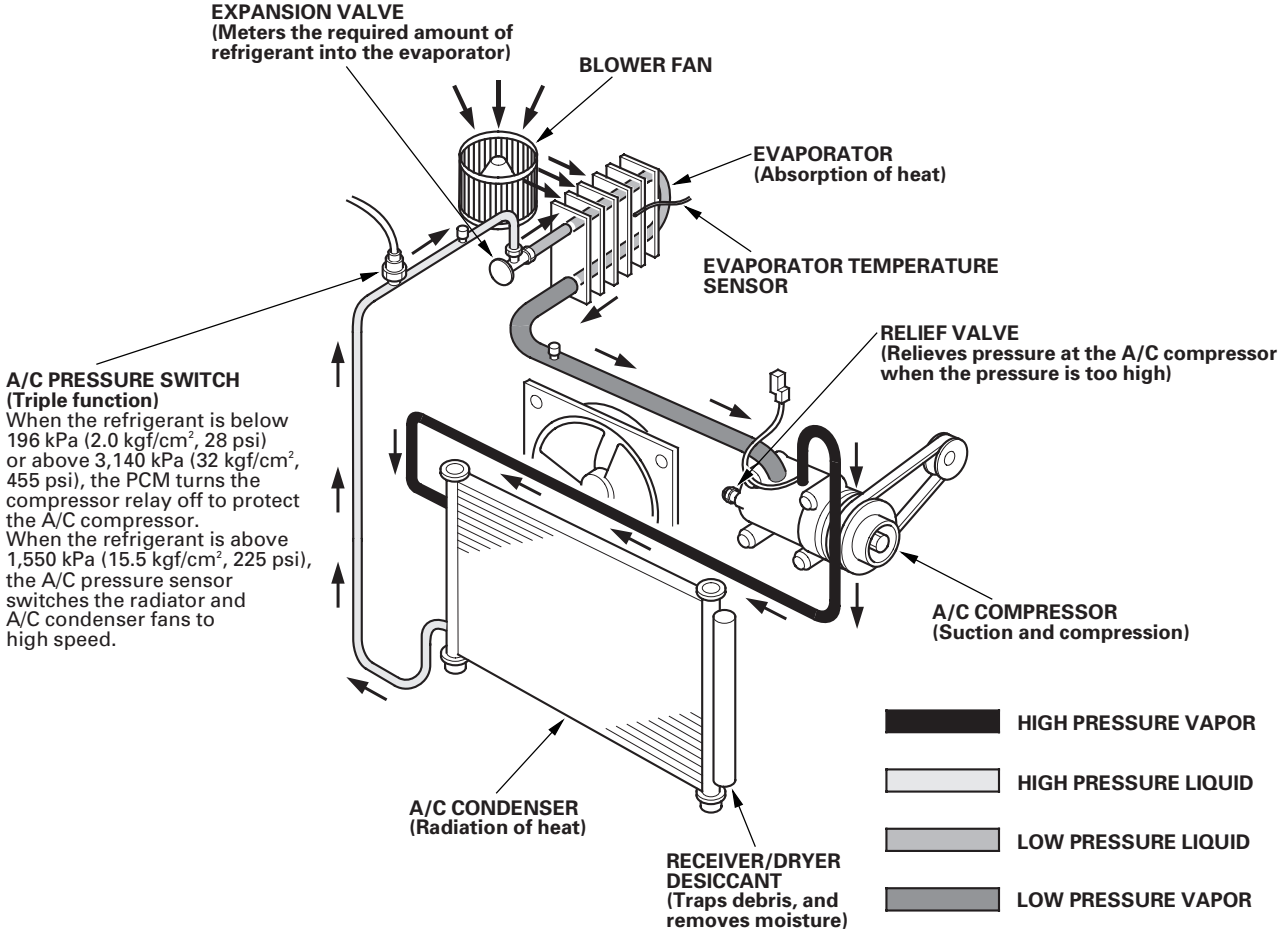
DTC	Detection Item or Symptom	ECU	DTC type	Page
B1200	Communication bus line error	Climate control unit	Loss of communication	(see page 22-110)
B1202	Climate control unit internal error	Climate control unit	Internal error	(see page 21-100)
B1205	Climate control unit lost communication with gauge control module (VSP/NE message)	Climate control unit	Loss of communication	(see page 21-100)
B1206	Climate control unit lost communication with gauge control module (ENGTEMP message)	Climate control unit	Loss of communication	(see page 21-100)
B1207	Climate control unit lost communication with gauge control module (ILLUMI message)	Climate control unit	Loss of communication	(see page 21-100)
B1225	An open in the in-car temperature sensor circuit	Climate control unit	Signal error	(see page 21-101)
B1226	A short in the in-car temperature sensor circuit	Climate control unit	Signal error	(see page 21-103)
B1227	An open in the outside air temperature sensor circuit	Climate control unit	Signal error	(see page 21-104)
B1228	A short in the outside air temperature sensor circuit	Climate control unit	Signal error	(see page 21-105)
B1229	An open in the sunlight sensor circuit	Climate control unit	Signal error	(see page 21-106)
B1230	A short in the sunlight sensor circuit	Climate control unit	Signal error	(see page 21-107)
B1231	An open in the evaporator temperature sensor circuit	Climate control unit	Signal error	(see page 21-108)
B1232	A short in the evaporator temperature sensor circuit	Climate control unit	Signal error	(see page 21-110)
B1233	An open in the driver's air mix control motor circuit	Climate control unit	Signal error	(see page 21-111)
B1234	A short in the driver's air mix control motor circuit	Climate control unit	Signal error	(see page 21-112)
B1235	A problem in the driver's air mix control linkage, door, or motor	Climate control unit	Signal error	(see page 21-113)
B1236	An open in the passenger's air mix control motor circuit	Climate control unit	Signal error	(see page 21-115)
B1237	A short in the passenger's air mix control motor circuit	Climate control unit	Signal error	(see page 21-116)
B1238	A problem in the passenger's air mix control linkage, door, or motor	Climate control unit	Signal error	(see page 21-117)
B1239	An open or short in the mode control motor circuit	Climate control unit	Signal error	(see page 21-119)
B1240	A problem in the mode control linkage, doors, or motor	Climate control unit	Signal error	(see page 21-121)
B1241	A problem in the blower motor circuit	Climate control unit	Signal error	(see page 21-122)

Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
Recirculation control doors do not change between Fresh and Recirculate	Recirculation control motor circuit troubleshooting (see page 21-126)	• HVAC DTCs (see page 21-8) • Blown fuse No. 30 (7.5 A) in the under-dash fuse/relay box • Cleanliness and tightness of all terminals
Voice communication does not work	Navigation communication line circuit troubleshooting (see page 21-128)	• HVAC DTCs (see page 21-8) • Cleanliness and tightness of all terminals
Blower, heater controls, and A/C do not work	Climate control power and ground circuit troubleshooting (see page 21-129)	• HVAC DTCs (see page 21-8) • Blown fuse No. 30 (7.5 A) in the under-dash fuse/relay box • Poor ground at G402 (see page 22-68) • Cleanliness and tightness of all terminals
Both fans do not run at low speed with the A/C on (but the A/C compressor runs with the A/C on)	Radiator and A/C condenser fan low speed circuit troubleshooting (see page 21-40)	• HVAC DTCs (see page 21-8) • Blown fuse No. 20 (30 A) in the under-hood fuse/relay box, and No. 30 (7.5 A) in the under-dash fuse/relay box • Poor ground at G201 (see page 22-68) • Cleanliness and tightness of all terminals
The A/C condenser fan does not run at high speed (but both fans run at low speed and the A/C compressor operates with the A/C on)	A/C condenser fan high speed circuit troubleshooting (see page 21-44)	• HVAC DTCs (see page 21-8) • Blown fuse No. 30 (7.5 A) in the under-dash fuse/relay box • Poor ground at G201 (see page 22-68) • Cleanliness and tightness of all terminals
Both fans do not run at high speed with the A/C on (but both fans run at low speed and the A/C compressor operates with the A/C on)	Radiator and A/C condenser fan high speed circuit troubleshooting (see page 21-46)	• HVAC DTCs (see page 21-8) • Poor ground at G202 (see page 22-68) • Cleanliness and tightness of all terminals
Both fans run at high speed all the time with the A/C on	Radiator and A/C condenser fan high speed circuit troubleshooting (see page 21-46)	• HVAC DTCs (see page 21-8) • Poor ground at G202 (see page 22-68) • Cleanliness and tightness of all terminals
The A/C compressor clutch does not engage (but both fans run with the A/C on)	A/C compressor clutch circuit troubleshooting (see page 21-47)	• HVAC DTCs (see page 21-8) • Blown fuse No. 12 (7.5 A) in the under-hood fuse/relay box, and No. 30 (7.5 A) in the under-dash fuse/relay box • Cleanliness and tightness of all terminals
A/C system does not come on (both fans and the A/C compressor do not work); heater is OK	A/C pressure switch circuit troubleshooting (see page 21-130)	• Body DTCs in B-CAN System Diagnosis Test Mode A Troubleshooting (see page 22-99) • HVAC DTCs (see page 21-8) • Cleanliness and tightness of all terminals
Blower fan runs slower than expected in cold weather	ECT Troubleshooting: ECT sensor 2 circuit low voltage (see page 11-149), ECT sensor 2 circuit high voltage (see page 11-151) NOTE: It is normal for the blower to run slowly until the engine coolant temperature begins to rise. If the blower continues to run slowly for an abnormal length of time, continue to troubleshoot the problem.	• Powertrain DTCs (see page 11-3)
HDS does not communicate with the climate control unit or the vehicle	Troubleshoot the DLC circuit (see page 11-194)	

System Description

The air conditioning system removes heat from the passenger compartment by transferring heat from the ambient air to the evaporator. The evaporator cools the air with the refrigerant that is circulating through the evaporator. The refrigerant expands in the evaporator, and the evaporator becomes very cold and absorbs the heat from the ambient air. The blower fan pushes air across the evaporator where the heat is absorbed, and then it blows the cool air into the passenger compartment.


EXPANSION VALVE
(Meters the required amount of refrigerant into the evaporator)
BLOWER FAN
EVAPORATOR
(Absorption of heat)
EVAPORATOR TEMPERATURE SENSOR
RELIEF VALVE
(Relieves pressure at the A/C compressor when the pressure is too high)
A/C PRESSURE SWITCH
(Triple function)
When the refrigerant is below 196 kPa (2.0 kgf/cm², 28 psi) or above 3,140 kPa (32 kgf/cm², 455 psi), the PCM turns the compressor relay off to protect the A/C compressor.
When the refrigerant is above 1,550 kPa (15.5 kgf/cm², 225 psi), the A/C pressure sensor switches the radiator and A/C condenser fans to high speed.
A/C COMPRESSOR
(Suction and compression)
A/C CONDENSER
(Radiation of heat)
RECEIVER/DRYER
DESICCANT
(Traps debris, and removes moisture)
HIGH PRESSURE VAPOR
HIGH PRESSURE LIQUID
LOW PRESSURE LIQUID
LOW PRESSURE VAPOR

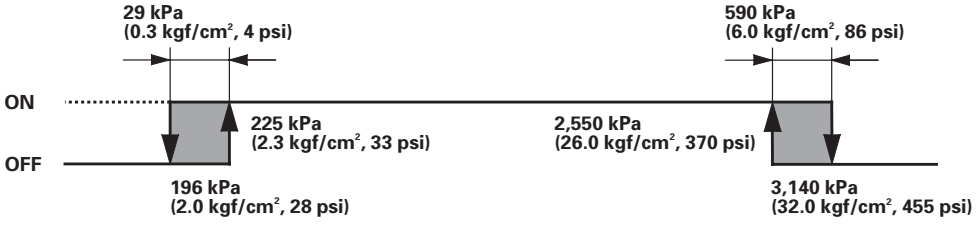
This vehicle uses HFC-134a (R-134a) refrigerant, which does not contain chlorofluorocarbons. Pay attention to the following service items:

- Do not mix refrigerants CFC-12 (R-12) and HFC-134a (R-134a). They are not compatible.
- Use only the recommended polyalkyleneglycol (PAG) refrigerant oil (DENSO ND-OIL 8) designed for the R-134a A/C compressor. Intermixing the recommended (PAG) refrigerant oil with any other refrigerant oil will result in A/C compressor failure.
- All A/C system parts (A/C compressor, discharge line, suction line, evaporator, A/C condenser, receiver/dryer, expansion valve, O-rings for joints) are designed for refrigerant R-134a. Do not exchange with R-12 parts.
- Use a halogen gas leak detector designed for refrigerant R-134a.
- R-12 and R-134a refrigerant servicing equipment are not interchangeable. Use only a recovery/recycling/charging station that is U.L.-listed and is certified to meet the requirements of SAE J2210 to service the R-134a air conditioning systems.
- Always recover refrigerant R-134a with an approved recovery/recycling/charging station before disconnecting any A/C fitting.

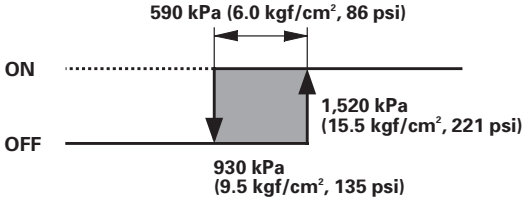
A/C Pressure Switch

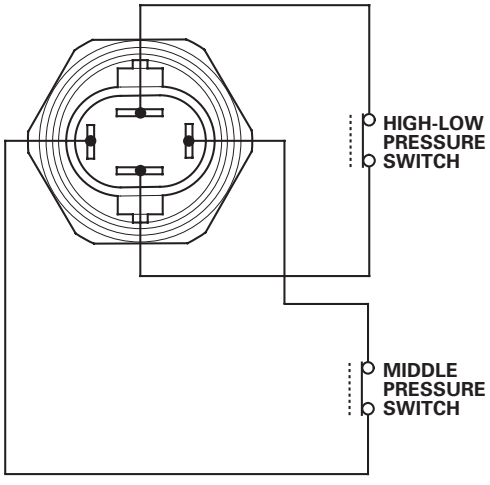
The A/C pressure switch consists of a high-low pressure switch (A/C pressure switch A) and a middle pressure switch (A/C pressure switch B).

- High-low pressure switch
  If the refrigerant pressure becomes too high (due to blockage or lack of airflow at the condenser), or too low (due to leakage), the A/C pressure switch stops the A/C request signal to the PCM and the A/C compressor stops operating.



- Middle pressure switch
  If the refrigerant pressure goes above 1,520 kPa (15.5 kgf/cm², 221 psi), the A/C pressure switch closes to signal the PCM to change the speed of the A/C condenser fan and radiator fan to high. When the refrigerant pressure drops below 930 kPa (9.5 kgf/cm², 135 psi), the A/C pressure switch opens to signal the PCM to change the speed of the A/C condenser fan and radiator fan to low.

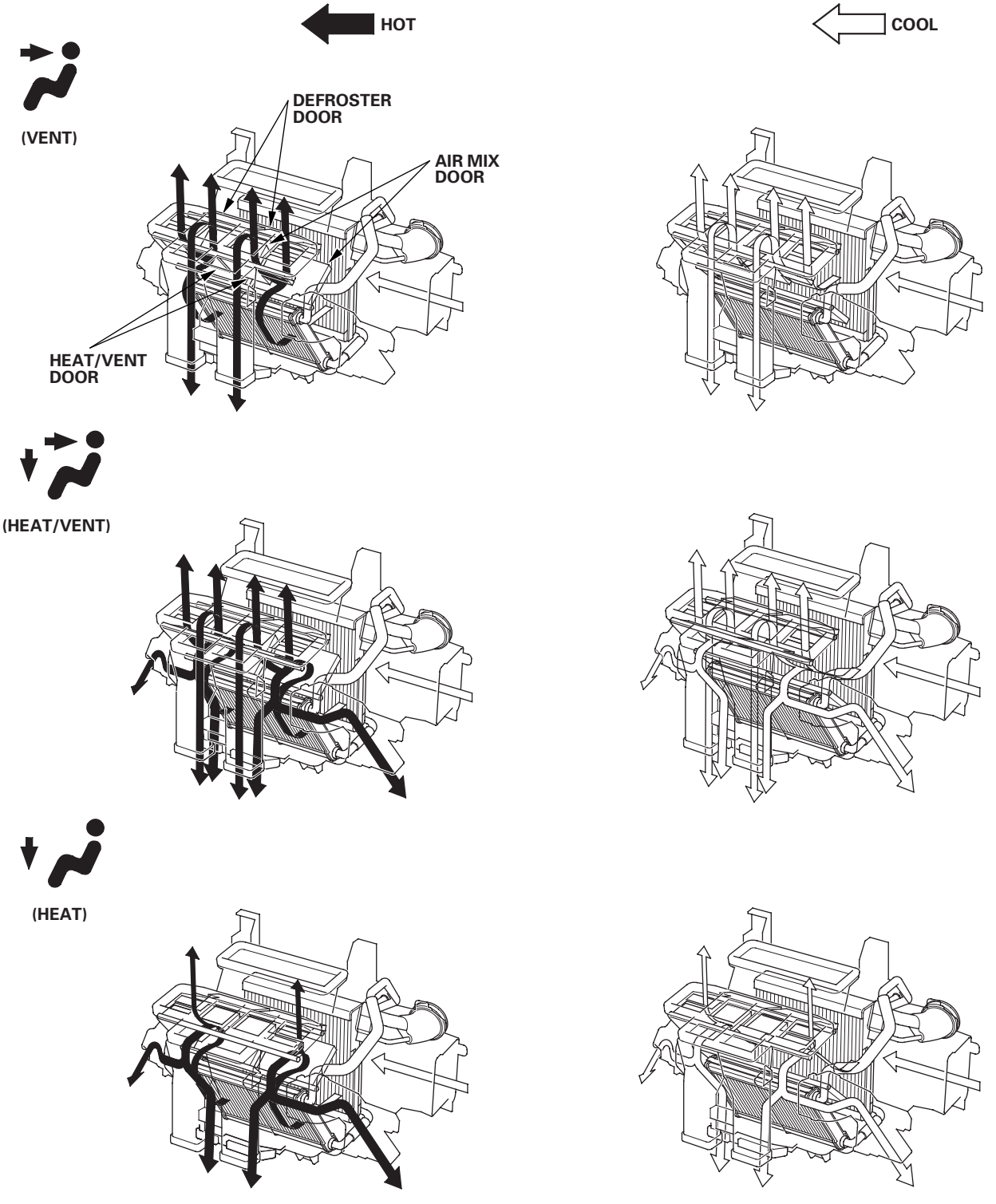




(cont'd)

System Description (cont'd)

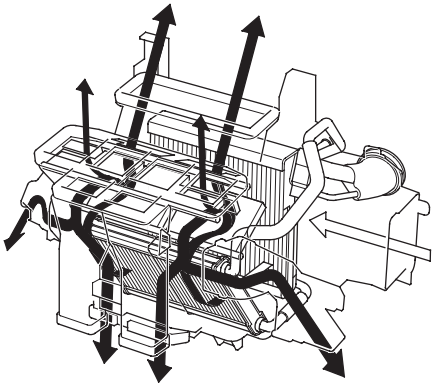
Climate Control Door Positions

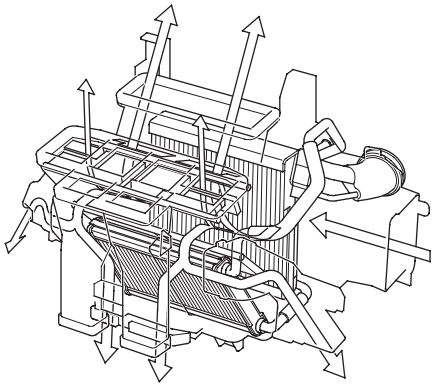


HOT

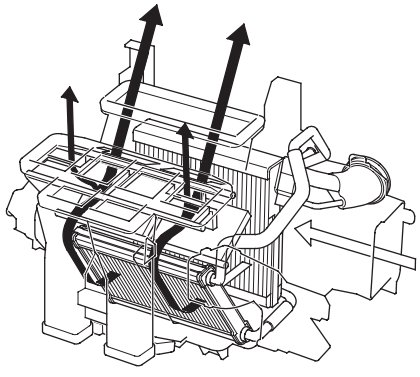
COOL

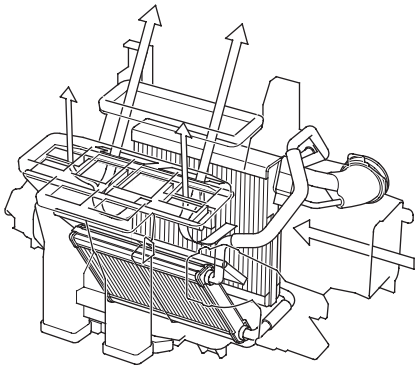
(HEAT/DEF)





(DEF)



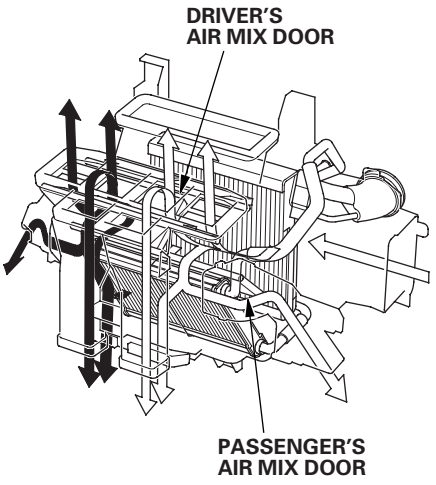


(cont'd)

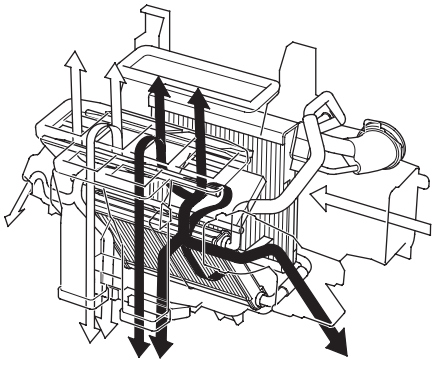
System Description (cont'd)

Dual Air Mix Control System

Driver's side: HOT
Passenger's side: COOL

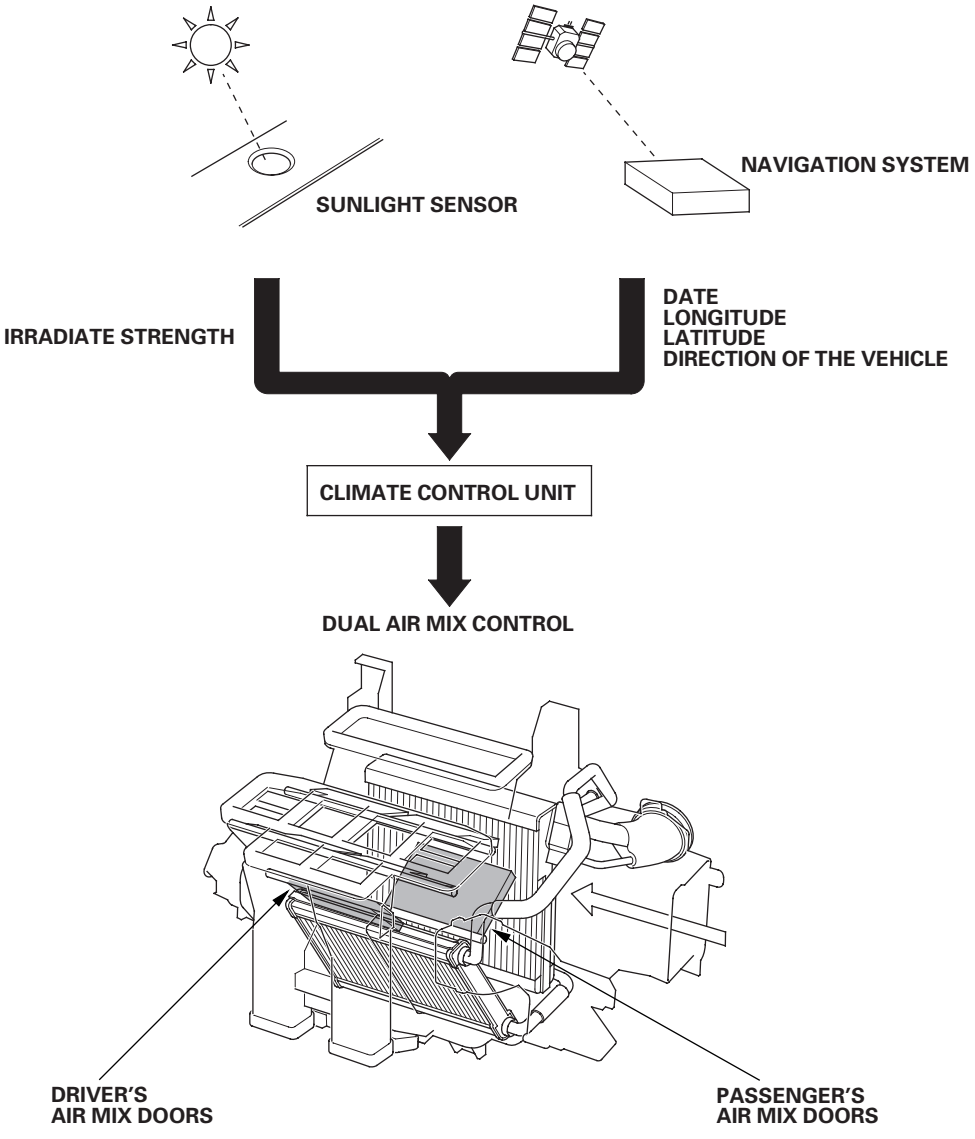


Driver's side: COOL
Passenger's side: HOT



i-Dual Climate Control System

This system automatically controls the temperature and the vent mode for the driver and passenger's sides depending on the angle of the sun and the direction of the vehicle. The system receives information such as date, time, longitude, and latitude from the navigation system, and it determines the irradiate strength of the sun from the sunlight sensor.



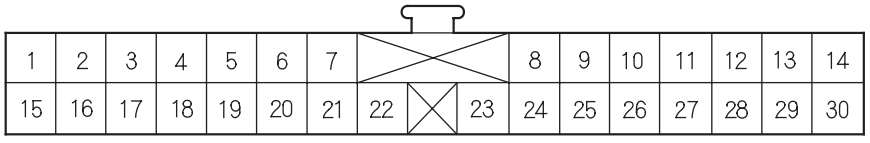
In the event that the navigation system malfunctions, or when driving in areas where the navigation cannot determine the vehicle position (non-coverage areas, tunnels, etc.), the climate control system will operate the same as one in a vehicle without navigation.

(cont'd)

System Description (cont'd)

Climate Control Unit Inputs and Outputs

CLIMATE CONTROL UNIT 30P CONNECTOR

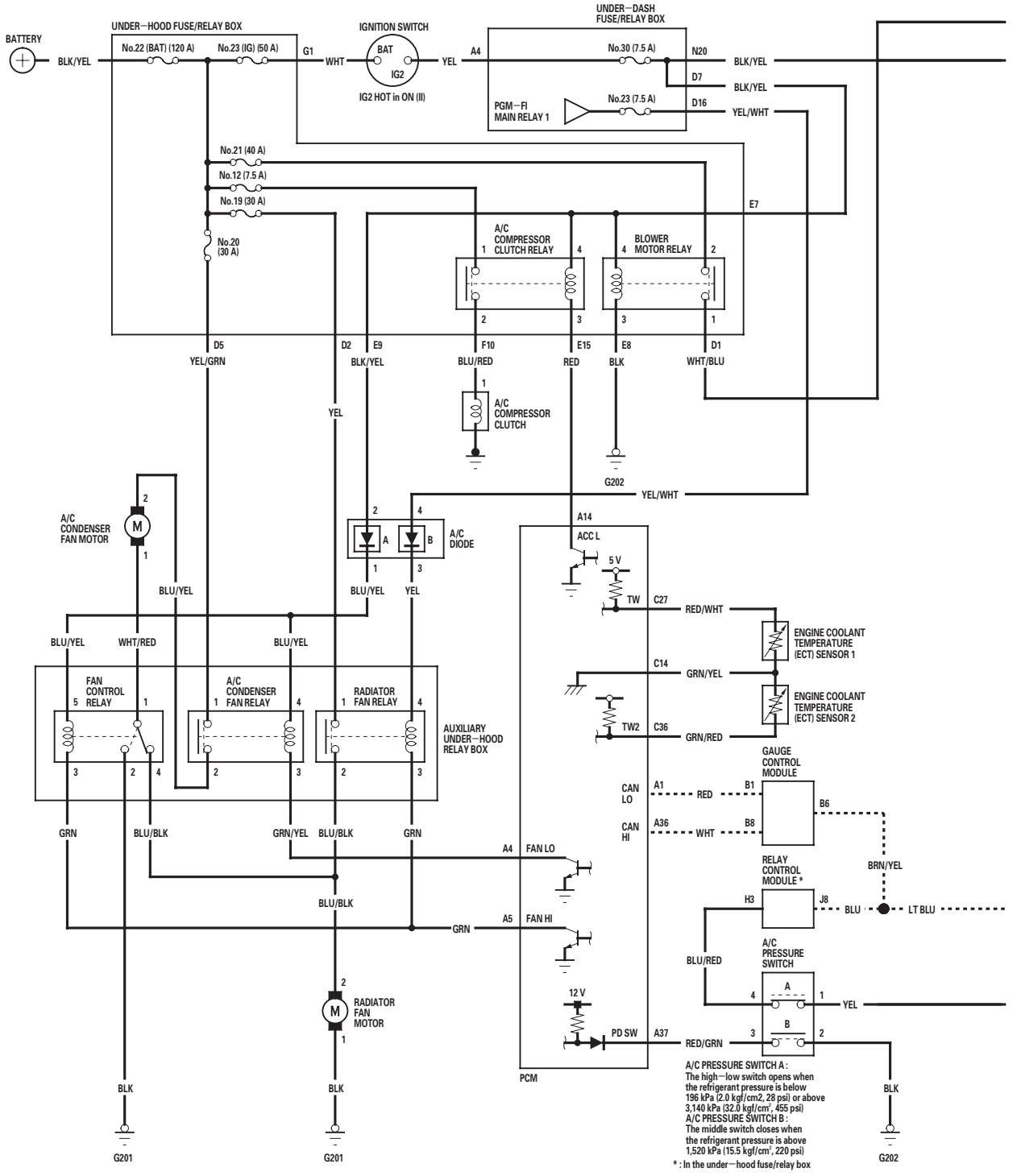


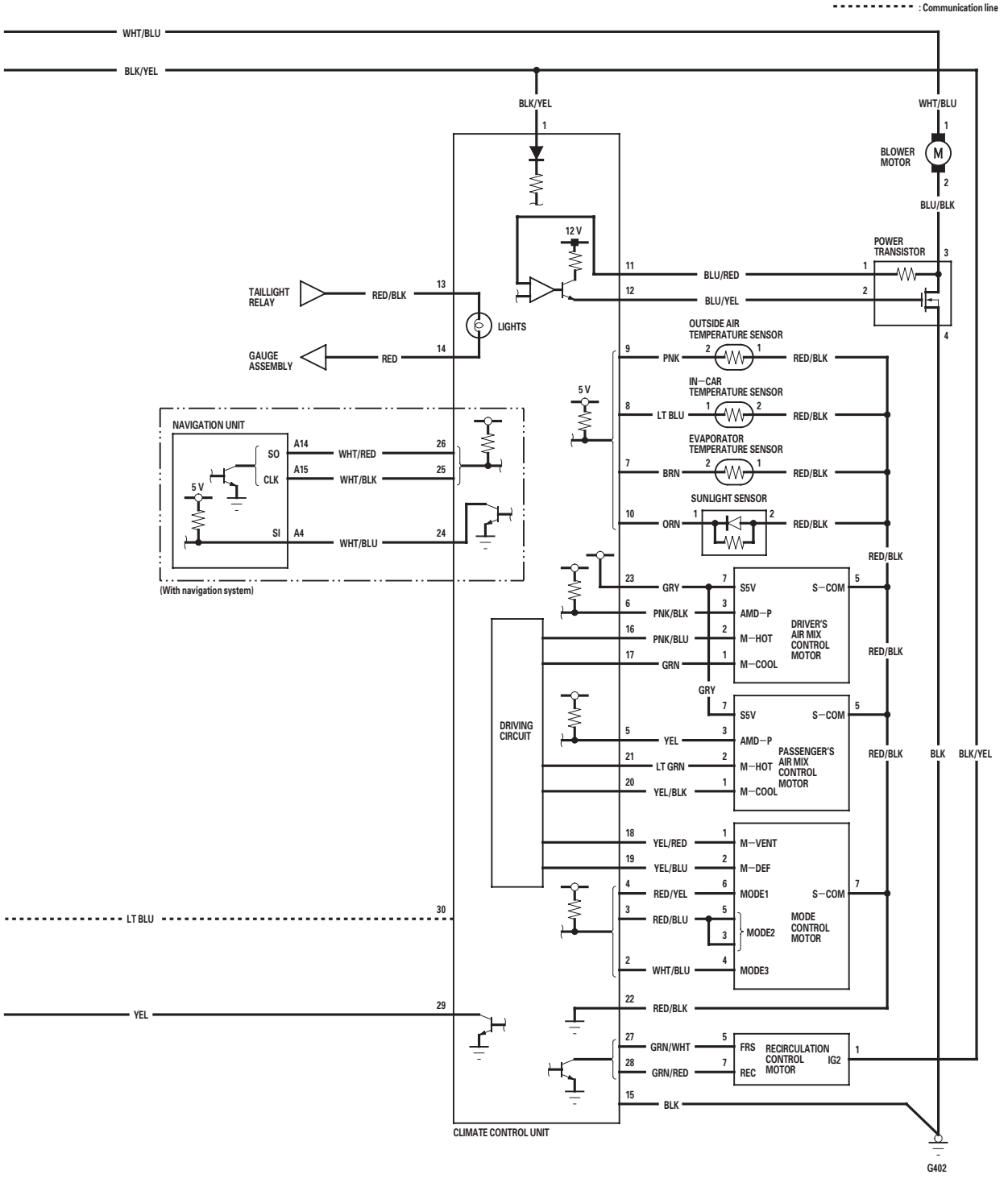
Wire side of female terminals

Cavity	Wire color	Signal	
1	BLK/YEL	IG2 (Power)	INPUT
2	WHT/BLU	MODE 3	OUTPUT
3	RED/BLU	MODE 2	OUTPUT
4	RED/YEL	MODE 1	OUTPUT
5	YEL	PASSENGER'S AIR MIX POTENTIAL	OUTPUT
6	PNK/BLK	DRIVER'S AIR MIX POTENTIAL	OUTPUT
7	BRN	EVAPORATOR TEMPERATURE SENSOR	OUTPUT
8	LT BLU	IN-CAR TEMPERATURE SENSOR	OUTPUT
9	PNK	OUTSIDE AIR TEMPERATURE SENSOR	OUTPUT
10	ORN	SUNLIGHT SENSOR	OUTPUT
11	BLU/RED	BLOWER FEEDBACK	INPUT
12	BLU/YEL	POWER TRANSISTOR CONTROL	OUTPUT
13	RED/BLK	TAILLIGHT RELAY	INPUT
14	RED	GAUGE ASSEMBLY	OUTPUT
15	BLK	GROUND (G402)	OUTPUT
16	PNK/BLU	DRIVER'S AIR MIX HOT	OUTPUT
17	GRN	DRIVER'S AIR MIX COOL	OUTPUT
18	YEL/RED	MODE VENT	OUTPUT
19	YEL/BLU	MODE DEF	OUTPUT
20	YEL/BLK	PASSENGER'S AIR MIX COOL	OUTPUT
21	LT GRN	PASSENGER'S AIR MIX HOT	OUTPUT
22	RED/BLK	SENSOR COMMON GROUND	INPUT
23	GRY	AIR MIX POTENTIAL +5	OUTPUT
24	WHT/BLU	NAVIGATION UNIT (SI)*	INPUT
25	WHT/BLK	NAVIGATION UNIT (CLK)*	OUTPUT
26	WHT/RED	NAVIGATION UNIT (SO)*	OUTPUT
27	GRN/WHT	FRESH	INPUT
28	GRN/RED	RECIRCULATE	INPUT
29	YEL	A/C PRESSURE SWITCH	INPUT
30	LT BLU	B-CAN	INPUT/OUTPUT

*: With navigation system

Circuit Diagram




: Communication line
WHT/BLU
BLK/YEL
BLK/YEL
WHT/BLU
BLOWER MOTOR
M
BLU/BLK
POWER TRANSISTOR
12 V
TAILLIGHT RELAY
RED/BLK
LIGHTS
GAUGE ASSEMBLY
RED
BLU/RED
BLU/YEL
OUTSIDE AIR TEMPERATURE SENSOR
PNK
RED/BLK
IN-CAR TEMPERATURE SENSOR
LT BLU
EVAPORATOR TEMPERATURE SENSOR
BRN
SUNLIGHT SENSOR
ORN
5 V
NAVIGATION UNIT
SO
CLK
SI
A14
A15
A4
WHT/RED
WHT/BLK
WHT/BLU
(With navigation system)
GRY
PNK/BLK
PNK/BLU
GRN
S5V
AMD-P
M-HOT
M-COOL
S-COM
DRIVER'S AIR MIX CONTROL MOTOR
DRIVING CIRCUIT
YEL
LT GRN
YEL/BLK
PASSENGER'S AIR MIX CONTROL MOTOR
YEL/RED
YEL/BLU
M-VENT
M-DEF
RED/YEL
RED/BLU
MODE1
MODE2
MODE3
MODE CONTROL MOTOR
WHT/BLU
LT BLU
YEL
GRN/WHT
GRN/RED
FRS
REC
RECIRCULATION CONTROL MOTOR
IG2
BLK
CLIMATE CONTROL UNIT
G402

DTC Troubleshooting

DTC B1202: Climate Control Unit Internal Error

NOTE:
- Check the battery condition (see page 22-74) and the charging system (see page 4-26).
- If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-99).

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS.

   Is DTC B1202 indicated?

   YES—The climate control unit is faulty, replace the control unit. ■

   NO—Intermittent failure, the climate control unit is OK at this time. ■

DTC B1205: Climate Control Unit Lost Communication with Gauge Control Module (VSP/NE message)

DTC B1206: Climate Control Unit Lost Communication with Gauge Control Module (ECT message)

DTC B1207: Climate Control Unit Lost Communication with Gauge Control Module (ILLUMI message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-99).

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS.

   Is DTC B1205, B1206 and/or B1207 indicated?

   YES—Go to step 4.

   NO—Intermittent failure, the gauge control module and climate control unit are OK at this time. ■

4. Check for DTCs using the HDS.

   Is DTC B1060 or B2157 indicated?

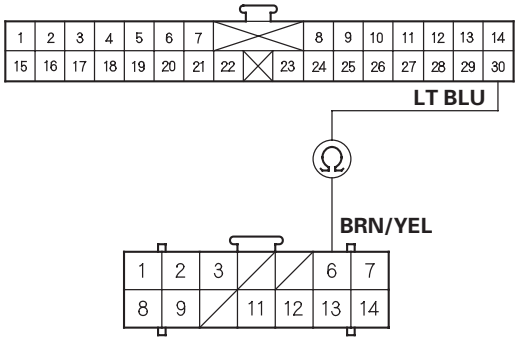
   YES—Perform the gauge control module input test (see page 22-122). ■

   NO—Go to step 5.

5. Turn the ignition switch OFF.
6. Disconnect the climate control unit 30P connector.
7. Remove the gauge control module (see page 22-263).

8. Check for continuity between the climate control unit 30P connector No. 30 terminal and gauge control module connector B (14P) No. 6 terminal.

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



GAUGE CONTROL MODULE CONNECTOR B (14P)
Wire side of female terminals

Is there continuity?

YES—Substitute a known-good HVAC or climate control unit, then return to step 3 and recheck. If the problem is still present, replace the gauge control module (see page 22-263). ■

NO—Repair open in the wire between the climate control unit and gauge control module. ■

DTC B1225 or DTC indicator A: An Open in the In-car Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1225 or A indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the in-car temperature sensor circuit. ■
4. Turn the ignition switch OFF.
5. Remove the in-car temperature sensor (see page 21-133) and test it (see page 21-133).

   Is the in-car temperature sensor OK?

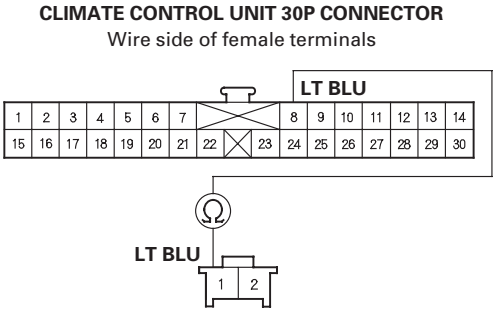
   YES—Go to step 6.

   NO—Replace the in-car temperature sensor. ■
6. Disconnect the climate control unit 30P connector.

(cont'd)

DTC Troubleshooting (cont'd)

7. Check for continuity between the climate control unit 30P connector No. 8 terminal and the in-car temperature sensor 2P connector No. 1 terminal.

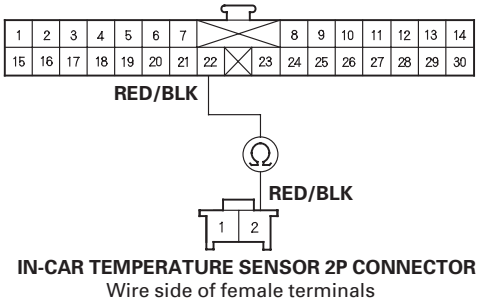

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals
LT BLU
1 2 3 4 5 6 7 8 9 10 11 12 13 14
15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
LT BLU
1 2
IN-CAR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Go to step 8.

NO—Repair open in the wire between the climate control unit and the in-car temperature sensor. ■

8. Check for continuity between the climate control unit 30P connector No. 22 terminal and the in-car temperature sensor 2P connector No. 2 terminal.


CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals
1 2 3 4 5 6 7 8 9 10 11 12 13 14
15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
RED/BLK
RED/BLK
1 2
IN-CAR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the climate control unit 30P connector and at the in-car temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

NO—Repair open in the wire between the climate control unit and the in-car temperature sensor. ■

DTC B1226 or DTC indicator B: A Short in the In-car Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1226 or B indicated?

   YES—Go to step 4.

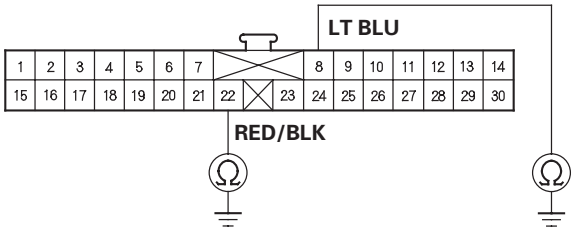
   NO—Intermittent failure. ■
4. Turn the ignition switch OFF.
5. Remove the in-car temperature sensor (see page 21-133) and test it (see page 21-133).

   Is the in-car temperature sensor OK?

   YES—Go to step 6.

   NO—Replace the in-car temperature sensor. ■
6. Disconnect the climate control unit 30P connector.
7. Check for continuity between body ground and the climate control unit 30P connector No. 8 and No. 22 terminals.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

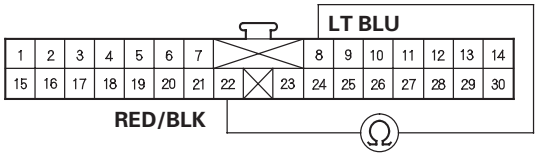
Is there continuity?

YES—Repair short to body ground in the wires between the climate control unit and the in-car temperature sensor. ■

NO—Go to step 8.

8. Check for continuity between the climate control unit 30P connector No. 8 and No. 22 terminals.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short in the wires between the climate control unit and the in-car temperature sensor. ■

NO—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

DTC Troubleshooting (cont'd)

DTC B1227 or DTC indicator C: An Open in the Outside Air Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1227 or C indicated?

   YES—Go to step 4.

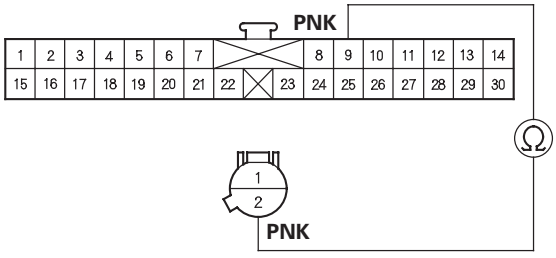
   NO—Intermittent failure, check for loose wires or poor connections on the outside air temperature sensor circuit. ■
4. Turn the ignition switch OFF.
5. Remove the outside air temperature sensor (see page 21-52) and test it (see page 21-52).

   Is the outside air temperature sensor OK?

   YES—Go to step 6.

   NO—Replace the outside air temperature sensor. ■
6. Disconnect the climate control unit 30P connector.
7. Check for continuity between the climate control unit 30P connector No. 9 terminal and the outside air temperature sensor 2P connector No. 2 terminal.

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



OUTSIDE AIR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

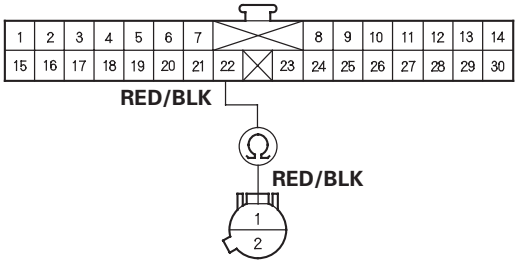
Is there continuity?

YES—Go to step 8.

NO—Repair open in the wire between the climate control unit and the outside air temperature sensor. ■

8. Check for continuity between the climate control unit 30P connector No. 22 terminal and the outside air temperature sensor 2P connector No. 1 terminal.

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



OUTSIDE AIR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the climate control unit 30P connector and at the outside air temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

NO—Repair open in the wire between the climate control unit and the outside air temperature sensor. ■

DTC B1228 or DTC indicator D: A Short in the Outside Air Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1228 or D indicated?

   YES—Go to step 4.

   NO—Intermittent failure. ■
4. Turn the ignition switch OFF.
5. Remove the outside air temperature sensor (see page 21-52) and test it (see page 21-52).

   Is the outside air temperature sensor OK?

   YES—Go to step 6.

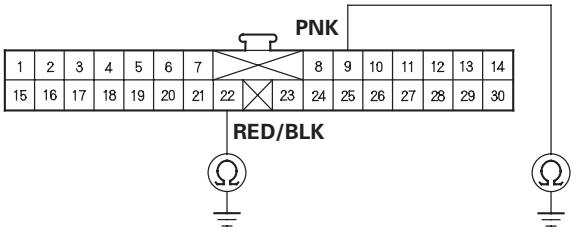
   NO—Replace the outside air temperature sensor. ■
6. Disconnect the climate control unit 30P connector.

(cont'd)

DTC Troubleshooting (cont'd)

7. Check for continuity between body ground and the climate control unit 30P connector No. 9 and No. 22 terminals.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

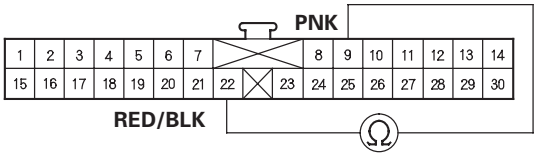
Is there continuity?

YES—Repair short to body ground in the wires between the climate control unit and the outside air temperature sensor. ■

NO—Go to step 8.

8. Check for continuity between the climate control unit 30P connector No. 9 and No. 22 terminals.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short in the wires between the climate control unit and the outside air temperature sensor. ■

NO—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

DTC B1229 or DTC indicator E: An Open in the Sunlight Sensor Circuit

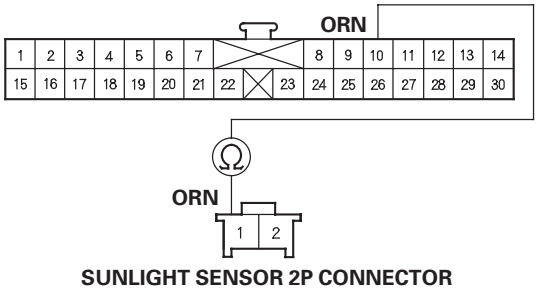
1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1229 or E indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the sunlight sensor circuit. ■
4. Turn the ignition switch OFF.
5. Disconnect the sunlight sensor 2P connector.
6. Disconnect the climate control unit 30P connector.
7. Check for continuity between the climate control unit 40P connector No. 10 terminal and the sunlight sensor 2P connector No. 1 terminal.

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



SUNLIGHT SENSOR 2P CONNECTOR
Wire side of female terminals

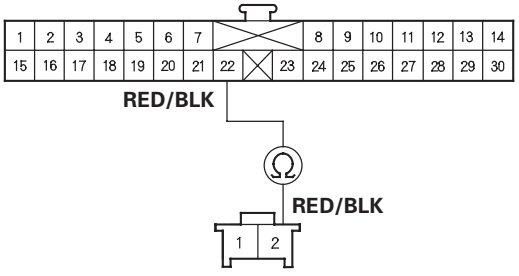
Is there continuity?

YES—Go to step 8.

NO—Repair open in the wire between the climate control unit and the sunlight sensor. ■

8. Check for continuity between the climate control unit 30P connector No. 22 terminal and the sunlight sensor 2P connector No. 2 terminal.

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



SUNLIGHT SENSOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Go to step 9.

NO—Repair open in the wire between the climate control unit and the sunlight sensor. ■

9. Reconnect the sunlight sensor 2P connector.
10. Reconnect the climate control unit 30P connector.
11. Test the sunlight sensor (see page 21-134).

Is the sunlight sensor OK?

YES—Check for loose wires or poor connections at the climate control unit 30P connector and at the sunlight sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

NO—Replace the sunlight sensor (see page 21-134). ■

DTC B1230 or DTC indicator F: A Short in the Sunlight Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

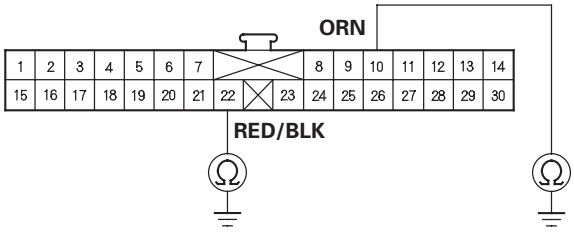
Is DTC B1230 or F indicated?

YES—Go to step 4.

NO—Intermittent failure. ■

4. Turn the ignition switch OFF.
5. Disconnect the sunlight sensor 2P connector.
6. Disconnect the climate control unit 30P connector.
7. Check for continuity between body ground and the climate control unit 30P connector No. 10 and No. 22 terminals.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wires between the climate control unit and the sunlight sensor. ■

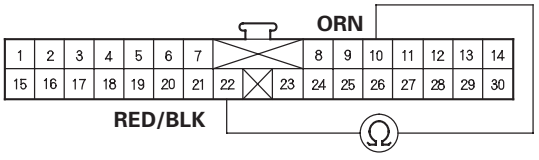
NO—Go to step 8.

(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between the climate control unit 30P connector No. 10 and No. 22 terminals.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short in the wires between the climate control unit and the sunlight sensor. ■

NO—Go to step 9.

9. Reconnect the sunlight sensor 2P connector.
10. Reconnect the climate control unit 30P connector.
11. Test the sunlight sensor (see page 21-134).

Is the sunlight sensor OK?

YES—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

NO—Replace the sunlight sensor (see page 21-134). ■

DTC B1231 or DTC indicator G: An Open in the Evaporator Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

Is DTC B1231 or G indicated?

YES—Go to step 4.

NO—Intermittent failure, check for loose wires or poor connections on the evaporator temperature sensor circuit. ■

4. Turn the ignition switch OFF.
5. Remove the evaporator temperature sensor (see page 21-53) and test it (see page 21-53).

Is the evaporator temperature sensor OK?

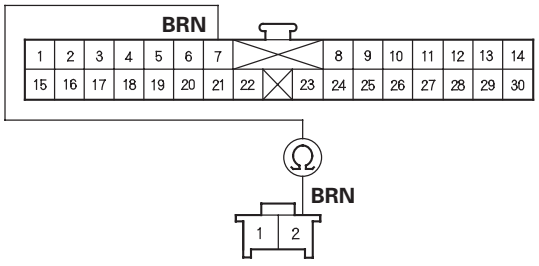
YES—Go to step 6.

NO—Replace the evaporator temperature sensor. ■

6. Disconnect the climate control unit 30P connector.

7. Check for continuity between the climate control unit 30P connector No. 7 terminal and the evaporator temperature sensor 2P connector No. 2 terminal.

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

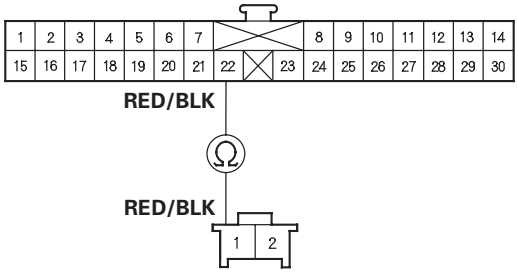
Is there continuity?

YES—Go to step 8.

NO—Repair open in the wire between the climate control unit and the evaporator temperature sensor. ■

8. Check for continuity between the climate control unit 30P connector No. 22 terminal and the evaporator temperature sensor 2P connector No. 1 terminal.

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the climate control unit 30P connector and at the evaporator temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

NO—Repair open in the wire between the climate control unit and the evaporator temperature sensor. ■

DTC Troubleshooting (cont'd)

DTC B1232 or DTC indicator H: A Short in the Evaporator Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1232 or H indicated?

   YES—Go to step 4.

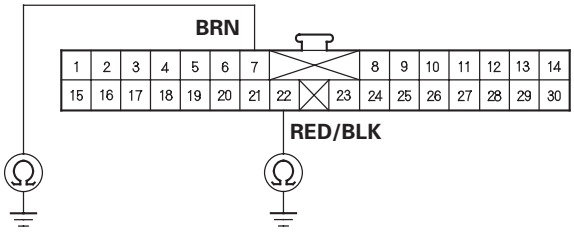
   NO—Intermittent failure. ■
4. Turn the ignition switch OFF.
5. Remove the evaporator temperature sensor (see page 21-53) and test it (see page 21-53).

   Is the evaporator temperature sensor OK?

   YES—Go to step 6.

   NO—Replace the evaporator temperature sensor. ■
6. Disconnect the climate control unit 30P connector.
7. Check for continuity between body ground and the climate control unit 30P connector No. 7 and No. 22 terminals.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

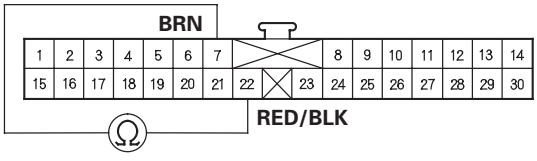
Is there continuity?

YES—Repair short to body ground in the wire between the climate control unit and the evaporator temperature sensor. ■

NO—Go to step 8.

8. Check for continuity between the climate control unit 30P connector No. 7 and No. 22 terminals.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short in the wires between the climate control unit and the evaporator temperature sensor. ■

NO—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

DTC B1233 or DTC indicator I: An Open in the Driver's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1233 or I indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the driver's air mix control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the driver's air mix control motor (see page 21-135).

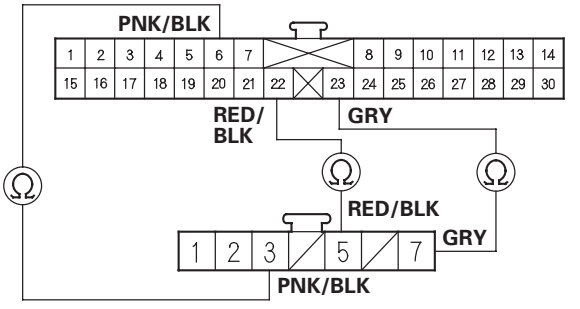
   Is the driver's air mix control motor OK?

   YES—Go to step 6.

   NO—Replace the driver's air mix control motor (see page 21-135). ■
6. Disconnect the driver's air mix control motor 7P connector.
7. Disconnect the climate control unit 30P connector.
8. Check for continuity between the following terminals of the climate control unit 30P connector and the driver's air mix control motor 7P connector.

30P:	7P:
No. 6	No. 3
No. 22	No. 5
No. 23	No. 7

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



DRIVER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the climate control unit 30P connector and at the driver's air mix control motor 7P connector. If the connections are good, substitute a known-good climate control unit and recheck. If the symptom/ indication goes away, replace the original climate control unit. ■

NO—Repair open in the wires between the climate control unit and the driver's air mix control motor. ■

DTC Troubleshooting (cont'd)

DTC B1234 or DTC indicator J: A Short in the Driver's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1234 or J indicated?

   YES—Go to step 4.

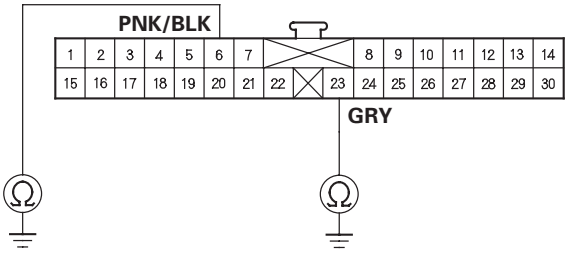
   NO—Intermittent failure. ■
4. Turn the ignition switch OFF.
5. Test the driver's air mix control motor (see page 21-135).

   Is the driver's air mix control motor OK?

   YES—Go to step 6.

   NO—Replace the driver's air mix control motor (see page 21-135). ■
6. Disconnect the driver's air mix control motor 7P connector.
7. Disconnect the climate control unit 30P connector.
8. Check for continuity between body ground and the climate control unit 30P connector No. 6 and No. 23 terminals individually.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

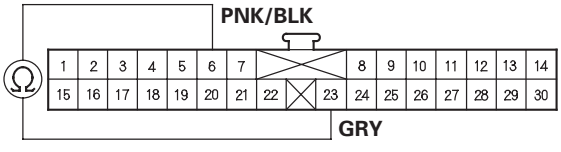
Is there continuity?

YES—Repair short to body ground in the wires between the climate control unit and the driver's air mix control motor. ■

NO—Go to step 9.

9. Check for continuity between the climate control unit 30P connector terminals as follows.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

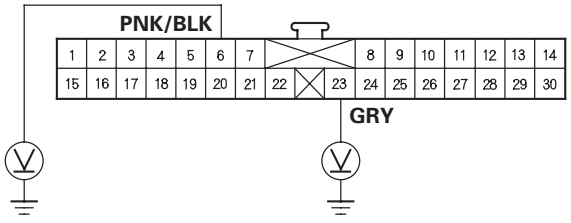
Is there continuity?

YES—Repair the short in the wires. ■

NO—Go to step 10.

10. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there voltage?

YES—Repair short to power in the wire(s) between the climate control unit and the driver's air mix control motor. This short may also damage the climate control unit. Repair the short to power before replacing the climate control unit. ■

NO—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

DTC B1235 or DTC indicator K: A Problem in the Driver's Air Mix Control Linkage, Door, or Motor

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1235 or K indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the driver's air mix control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the driver's air mix control motor (see page 21-135).

   Is the driver's air mix control motor OK?

   YES—Go to step 6.

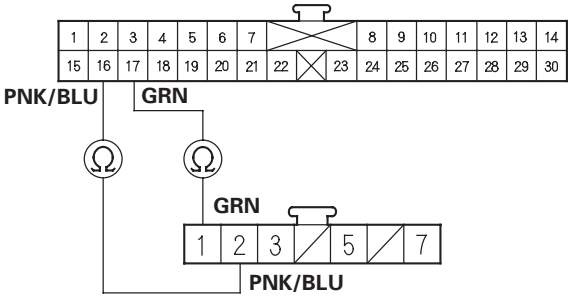
   NO—Replace the driver's air mix control motor (see page 21-135), or repair the driver's air mix control linkage or door. ■
6. Disconnect the driver's air mix control motor 7P connector.
7. Disconnect the climate control unit 30P connector.

(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between the following terminals of climate control unit 30P connector and the driver's air mix control motor 7P connector.
   30P: 7P:
   No. 16 No. 2
   No. 17 No. 1

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



DRIVER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

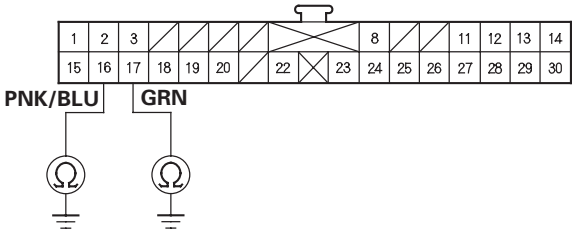
Is there continuity?

YES—Go to step 9.

NO—Repair open in the wire(s) between the climate control unit and the driver's air mix control motor.■

9. Check for continuity between body ground and climate control unit 30P connector No. 16 and No. 17 terminals individually.

HVAC CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wire(s) between the climate control unit and the driver's air mix control motor.■

NO—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.■

DTC B1236 or DTC indicator L: An Open in the Passenger's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1236 or L indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the passenger's air mix control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the passenger's air mix control motor (see page 21-136).

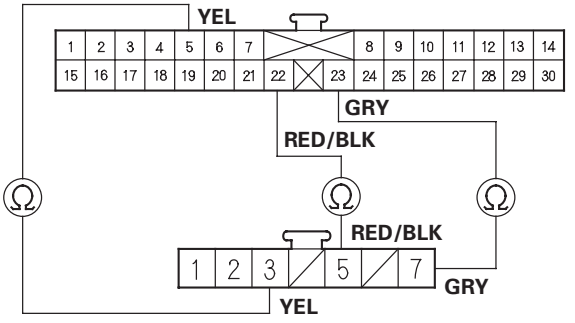
   Is the passenger's air mix control motor OK?

   YES—Go to step 6.

   NO—Replace the passenger's air mix control motor (see page 21-137). ■
6. Disconnect the passenger's air mix control motor 7P connector.
7. Disconnect the climate control unit 30P connector.
8. Check for continuity between following terminals of the climate control unit 30P connector and the passenger's air mix control motor 7P connector.

30P:	7P:
No. 5	No. 3
No. 22	No. 5
No. 23	No. 7

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



PASSENGER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the climate control unit 30P connector and at the passenger's air mix control motor 7P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

NO—Repair open in the wires between the climate control unit and the passenger's air mix control motor. ■

DTC Troubleshooting (cont'd)

DTC B1237 or DTC indicator M: A Short in the Passenger's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1237 or M indicated?

   YES—Go to step 4.

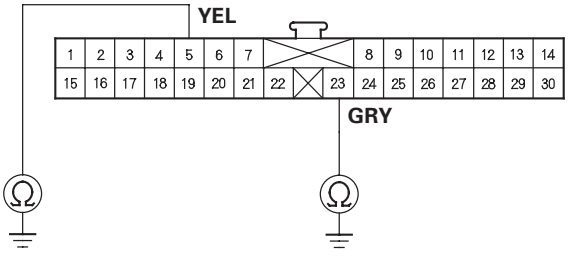
   NO—Intermittent failure. ■
4. Turn the ignition switch OFF.
5. Test the passenger's air mix control motor (see page 21-136).

   Is the passenger's air mix control motor OK?

   YES—Go to step 6.

   NO—Replace the passenger's air mix control motor (see page 21-137). ■
6. Disconnect the passenger's air mix control motor 7P connector.
7. Disconnect the climate control unit 30P connector.
8. Check for continuity between body ground and the climate control unit 30P connector No. 5 and No. 23 terminals individually.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

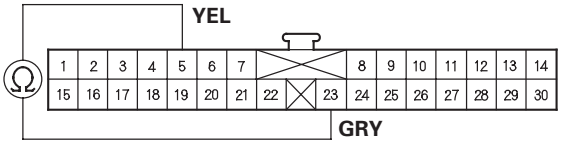
Is there continuity?

YES—Repair short to body ground in the wires between the climate control unit and the passenger's air mix control motor. ■

NO—Go to step 9.

9. Check for continuity between the climate control unit 30P connector terminals as follows.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

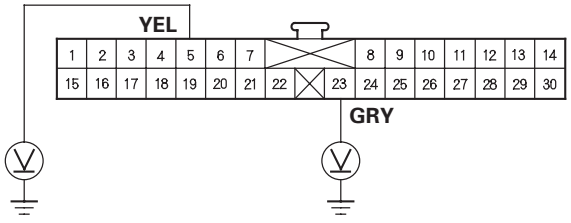
Is there continuity?

YES—Repair the short in the wires. ■

NO—Go to step 10.

10. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there voltage?

YES—Repair short to power in the wire(s) between the climate control unit and the passenger's air mix control motor. This short may also damage the climate control unit. Repair the short to power before replacing the climate control unit. ■

NO—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

DTC B1238 or DTC indicator N: A Problem in the Passenger's Air Mix Control Linkage, Door, or Motor

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1238 or N indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the passenger's control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the passenger's air mix control motor (see page 21-136).

   Is the passenger's air mix control motor OK?

   YES—Go to step 6.

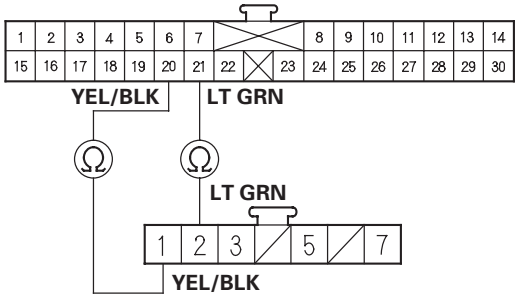
   NO—Replace the passenger's air mix control motor (see page 21-137), or repair the passenger's air mix control linkage or door. ■
6. Disconnect the passenger's air mix control motor 7P connector.
7. Disconnect the climate control unit 30P connector.

(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between the following terminals of climate control unit 30P connector and the passenger's air mix control motor 7P connector.
   30P: 7P:
   No. 20 No. 1
   No. 21 No. 2

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



PASSENGER'S AIR MIX CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

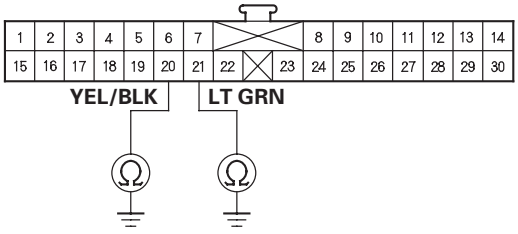
Is there continuity?

YES—Go to step 9.

NO—Repair open in the wire(s) between the climate control unit and the passenger's air mix control motor. ■

9. Check for continuity between body ground and climate control unit 30P connector No. 20 and No. 21 terminals individually.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wire(s) between the climate control unit and the passenger's air mix control motor. ■

NO—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

DTC B1239 or DTC indicator O: An Open or Short in the Mode Control Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1239 or O indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the mode control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the mode control motor (see page 21-56).

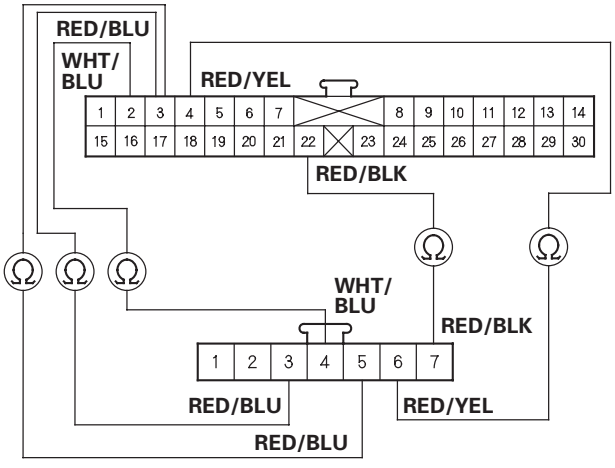
   Is the mode control motor OK?

   YES—Go to step 6.

   NO—Replace the mode control motor (see page 21-56). ■
6. Disconnect the mode control motor 7P connector.
7. Disconnect the climate control unit 30P connector.
8. Check for continuity between the following terminals of climate control unit 30P connector and the mode control motor 7P connector.

30P:	7P:
No. 2	No. 4
No. 3	No. 3
No. 3	No. 5
No. 4	No. 6
No. 22	No. 7

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Go to step 9.

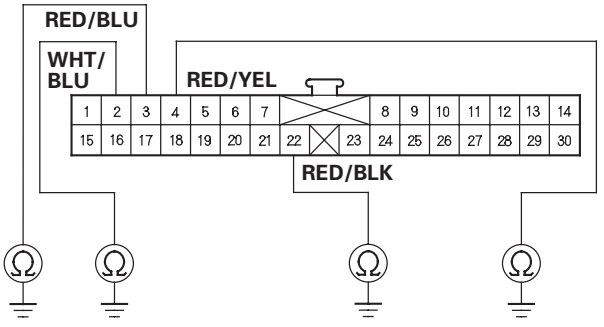
NO—Repair open in the wires between the climate control unit and the mode control motor. ■

(cont'd)

DTC Troubleshooting (cont'd)

9. Check for continuity between body ground and the climate control unit 30P connector No. 2, 3, 4, and 22 terminals individually.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wires between the climate control unit and the mode control motor. ■

NO—Go to step 10.

10. Check for continuity between the climate control unit 30P connector terminals as follows.

From terminal	To terminals
2	3, 4, 22
3	4, 22
4	18, 22

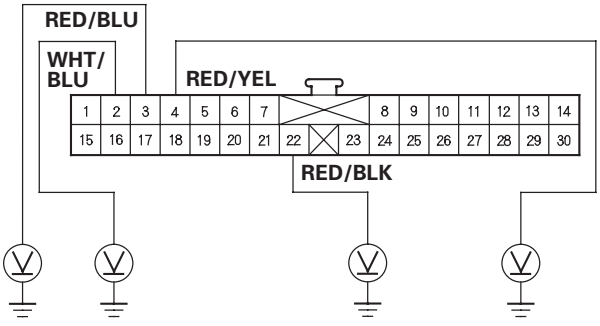
Is there continuity?

YES—Repair the short in the wires. ■

NO—Go to step 11.

11. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES—Repair short to power in the wires between the climate control unit and the mode control motor. This short may also damage the climate control unit. Repair the short to power before replacing the climate control unit. ■

NO—Check for loose wires or poor connections at the climate control unit 30P connector and at the mode control motor 7P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

DTC B1240 or DTC indicator P: A Problem in the Mode Control Linkage, Doors, or Motor

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1240 or P indicated?

   YES—Go to step 4.

   NO—Intermittent failure, check for loose wires or poor connections on the mode control motor circuit. ■
4. Turn the ignition switch OFF.
5. Test the mode control motor (see page 21-56).

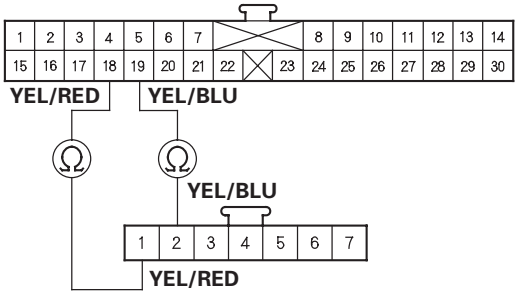
   Is the mode control motor OK?

   YES—Go to step 6.

   NO—Replace the mode control motor (see page 21-56), or repair the mode control linkage or doors. ■
6. Disconnect the front mode control motor 7P connector.
7. Disconnect the climate control unit 30P connector.
8. Check for continuity between the following terminals of climate control unit 30P connector and the front mode control motor 7P connector.

30P:	7P:
No. 18	No. 1
No. 19	No. 2

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



MODE CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Go to step 9.

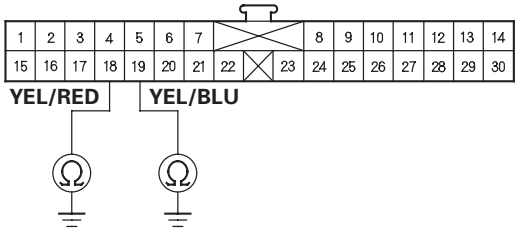
NO—Repair open in the wire(s) between the climate control unit and the mode control motor. ■

(cont'd)

DTC Troubleshooting (cont'd)

9. Check for continuity between body ground and climate control unit 30P connector No. 18 and No. 19 terminals individually.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wire(s) between the climate control unit and the front mode control motor. ■

NO—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

DTC B1241 or DTC indicator Q: A Problem in the Blower Motor Circuit

1. Clear the DTC with the HDS.
2. Operate the climate control system in several modes.
3. Check for DTCs using the HDS or self-diagnostic.

   Is DTC B1241 or Q indicated?

   YES—Go to step 4.

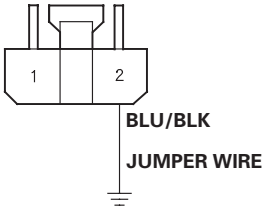
   NO—Intermittent failure, check for loose wires or poor connections on the blower motor circuit. ■
4. Turn the ignition switch OFF.
5. Check the No. 21 (40 A) fuse in the under-hood fuse/relay box, and the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Are the fuses OK?

   YES—Go to step 6.

   NO—Replace the fuses, and recheck. If the fuses blow again, check for a short in the No. 21 (40 A) and No. 30 (7.5 A) fuses circuit. ■
6. Connect the blower motor 2P connector No. 2 terminal to body ground with a jumper wire.

BLOWER MOTOR 2P CONNECTOR



Wire side of female terminals

7. Turn the ignition switch ON (II).

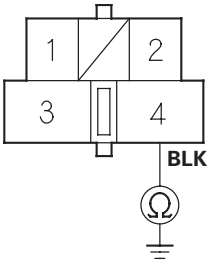
   Does the blower motor run?

   YES—Go to step 8.

   NO—Go to step 23.

8. Turn the ignition switch OFF.
9. Disconnect the jumper wire.
10. Disconnect the power transistor 4P connector.
11. Check for continuity between the power transistor 4P connector No. 4 terminal and body ground.

POWER TRANSISTOR 4P CONNECTOR



Wire side of female terminals

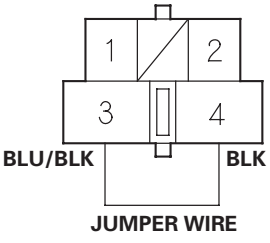
Is there continuity?

YES—Go to step 12.

NO—Check for an open in the wire between the power transistor and body ground. If the wire is OK, check for poor ground at G402 (see page 22-68). ■

12. Connect the power transistor 4P connector No. 3 and No. 4 terminals with a jumper wire.

POWER TRANSISTOR 4P CONNECTOR



Wire side of female terminals

13. Turn the ignition switch ON (II).

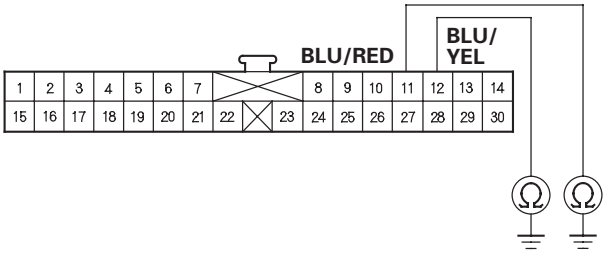
Does the blower motor run at high speed?

YES—Go to step 14.

NO—Repair open in the BLU/BLK wire between the power transistor and the blower motor. ■

14. Turn the ignition switch OFF.
15. Disconnect the jumper wire.
16. Disconnect the climate control unit 30P connector.
17. Check for continuity between body ground and the climate control unit 30P connector No. 11 and No. 12 terminals individually.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wires between the climate control unit and the power transistor. ■

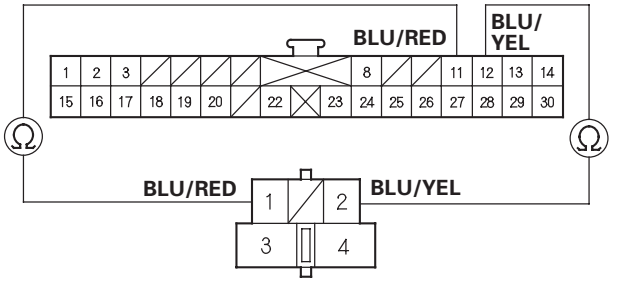
NO—Go to step 18.

(cont'd)

DTC Troubleshooting (cont'd)

18. Check for continuity between the following terminals of the climate control unit 30P connector and the power transistor 4P connector.
    30P: 4P:
    No. 11 No. 1
    No. 12 No. 2

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



POWER TRANSISTOR 4P CONNECTOR
Wire side of female terminals

Is there continuity?

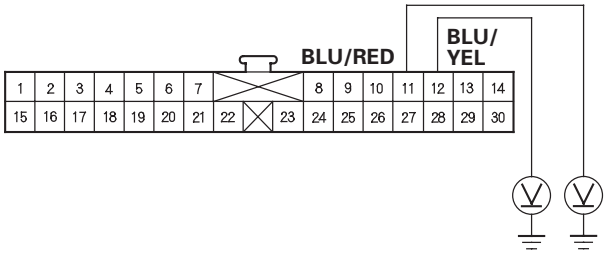
YES—Go to step 19.

NO—Repair open in the wires between the climate control unit and the power transistor. ■

19. Start the engine.

20. Measure the voltage between body ground and the climate control unit 30P connector No. 11 and No. 12 terminals individually.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there voltage?

YES—Repair short to power in the wires. ■

NO—Go to step 21.

21. Reconnect the climate control unit 30P connector.

22. Test the power transistor (see page 21-54).

Is the power transistor OK?

YES—Check for loose wires or poor connections at the climate control unit 30P connector and at the power transistor 4P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

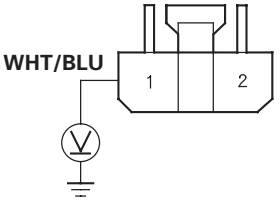
NO—Replace the power transistor. ■

23. Disconnect the jumper wire.

24. Disconnect the blower motor 2P connector.

25. Measure the voltage between the blower motor 2P connector No. 1 terminal and body ground.

BLOWER MOTOR 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES—Replace the blower motor. ■

NO—Go to step 26.

26. Turn the ignition switch OFF.

27. Remove the blower motor relay from the under-hood fuse/relay box, and test it (see page 22-75).

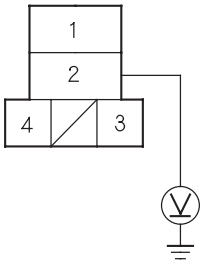
Is the relay OK?

YES—Go to step 28.

NO—Replace the blower motor relay. ■

28. Measure the voltage between the blower motor relay 4P socket No. 2 terminal and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Is there battery voltage?

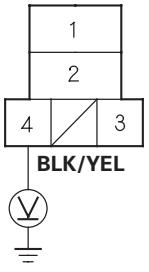
YES—Go to step 29.

NO—Replace the under-hood fuse/relay box (see page 22-72). ■

29. Turn the ignition switch ON (II).

30. Measure the voltage between the blower motor relay 4P socket No. 4 terminal and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Is there battery voltage?

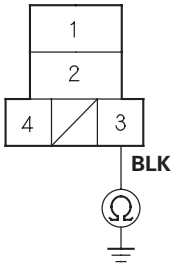
YES—Go to step 31.

NO—Repair open in the wire between the No. 30 (7.5 A) fuse in the under-dash fuse/relay box and the blower motor relay. ■

31. Turn the ignition switch OFF.

32. Check for continuity between the blower motor relay 4P socket No. 3 terminal and body ground.

BLOWER MOTOR RELAY 4P SOCKET



Is there continuity?

YES—Repair open in the WHT/BLU wire between the blower motor relay and the blower motor. ■

NO—Check for an open in the wire between the blower motor relay and body ground. If the wire is OK, check for poor ground at G202 (see page 22-68). ■

Recirculation Control Motor Circuit Troubleshooting

1. Check the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Is the fuse OK?

   YES—Go to step 2.

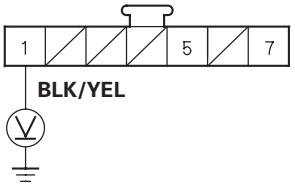
   NO—Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 30 (7.5 A) fuse circuit. ■

2. Disconnect the recirculation control motor 7P connector.

3. Turn the ignition switch ON (II).

4. Measure the voltage between the recirculation control motor 7P connector No. 1 terminal and body ground.

RECIRCULATION CONTROL MOTOR 7P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES—Go to step 5.

NO—Repair open in the wire between the No. 30 (7.5 A) fuse in the under-dash fuse/relay box and the recirculation control motor. ■

5. Turn the ignition switch OFF.

6. Test the recirculation control motor (see page 21-57).

   Is the recirculation control motor OK?

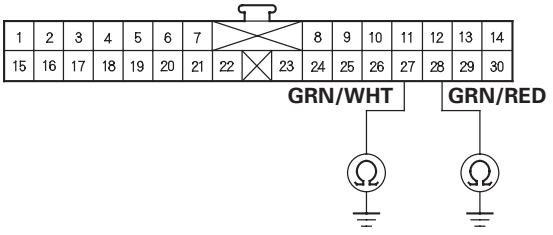
   YES—Go to step 7.

   NO—Replace the recirculation control motor (see page 21-57), or repair the recirculation control linkage or door. ■

7. Disconnect the climate control unit 30P connector.

8. Check for continuity between body ground and the climate control unit 30P connector No. 27 and No. 28 terminals individually.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

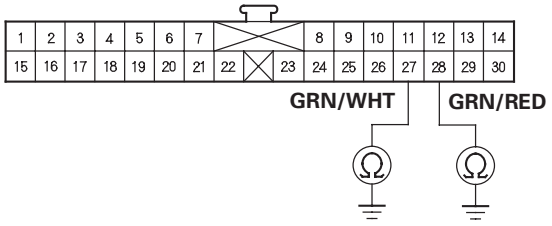
Is there continuity?

YES—Repair short to body ground in the wires between the climate control unit and the recirculation control motor. ■

NO—Go to step 9.

9. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there any voltage?

YES—Repair short to power in the wires between the climate control unit and the recirculation control motor. This short may also damage the climate control unit. Repair the short to power before replacing the climate control unit. ■

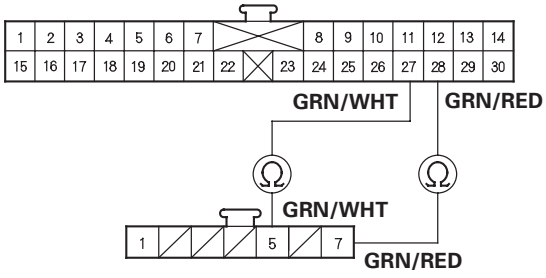
NO—Go to step 10.

10. Turn the ignition switch OFF.

11. Check for continuity between the following terminals of the climate control unit 30P connector and the recirculation control motor 7P connector.

30P:	7P:
No. 27	No. 5
No. 28	No. 7

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



RECIRCULATION CONTROL MOTOR 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES—Check for loose wires or poor connections at the climate control unit 30P connector and at the recirculation control motor 7P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

NO—Repair open in the wires between the climate control unit and the recirculation control motor. ■

Navigation Communication Line Circuit Troubleshooting

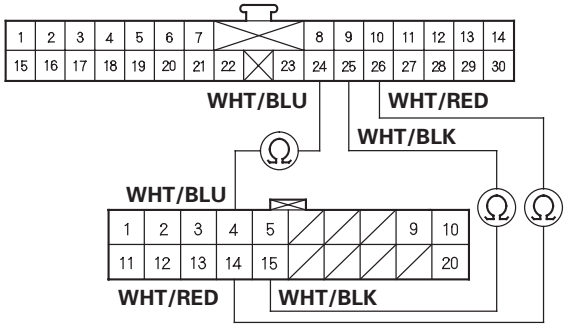
1. Disconnect navigation unit connector A (20P).

2. Disconnect the climate control unit 30P connector.

3. Check for continuity between the following terminals of the climate control unit 30P connector and navigation unit connector A (20P).

30P	20P
No. 24	No. 4
No. 25	No. 15
No. 26	No. 14

CLIMATE CONTROL UNIT 30P CONNECTOR
Wire side of female terminals



NAVIGATION UNIT CONNECTOR A (20P)
Wire side of female terminals

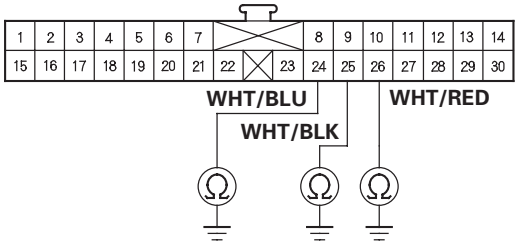
Is there continuity?

YES—Go to step 4.

NO—Repair open in the wires between the climate control unit and the navigation unit. ■

4. Check for continuity between body ground and the climate control unit 30P connector No. 24, 25, and 26 terminals individually.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair short to body ground in the wires between the climate control unit and the navigation unit. ■

NO—Check for loose wires or poor connections at the climate control unit 30P connector and at the navigation unit connector A (20P). If the connections are good, substitute a known-good climate control unit and/or navigation unit, and recheck. If the symptom/indication goes away, replace the original climate control unit and/or navigation unit. ■

Climate Control Power and Ground Circuit Troubleshooting

1. Check the No. 30 (7.5 A) fuse in the under-dash fuse/relay box.

   Is the fuse OK?

   YES—Go to step 2.

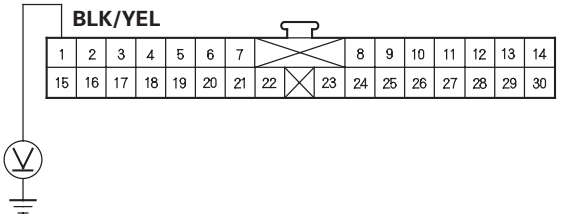
   NO—Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 30 (7.5 A) fuse circuit. ■

2. Disconnect the climate control unit 30P connector.

3. Turn the ignition switch ON (II).

4. Measure the voltage between the climate control unit 30P connector No. 1 terminal and body ground.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there battery voltage?

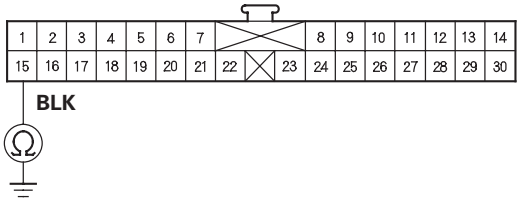
YES—Go to step 5.

NO—Repair an open in the wire between the No. 30 (7.5 A) fuse in the under-dash fuse/relay box and the climate control unit. ■

5. Turn the ignition switch OFF.

6. Check for continuity between the climate control unit 30P connector No. 15 terminal and body ground.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Check for loose wires and poor connections at the climate control unit 30P connector. If connections are good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

NO—Check for an open in the wire between the climate control unit and body ground. If the wire is OK, check for poor ground at G402 (see page 22-68). ■

A/C Pressure Switch Circuit Troubleshooting

NOTE:
- Do not use this troubleshooting procedure if any of the following items are operative; condenser fan, radiator fan, A/C compressor. Refer to the symptom troubleshooting index.
- Before doing any symptom troubleshooting, check for powertrain DTCs (see page 11-3).

1. Check for body DTCs using B-CAN system diagnosis test mode A troubleshooting (see page 22-99).

   Are there any DTCs indicated?

   YES—Do the appropriate troubleshooting for the DTC indicated. ■

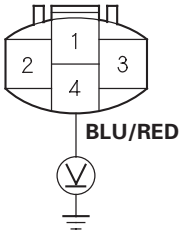
   NO—Go to step 2.

2. Disconnect the A/C pressure switch 4P connector.

3. Turn the ignition switch ON (II).

4. Measure the voltage between the A/C pressure switch 4P connector No. 4 terminal and body ground.

A/C PRESSURE SWITCH 4P CONNECTOR



Wire side of female terminals

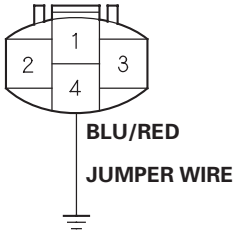
Is there 5 V or more?

YES—Go to step 5.

NO—Go to step 19.

5. Connect the A/C pressure switch 4P connector No. 4 terminal to body ground with the jumper wire.

A/C PRESSURE SWITCH 4P CONNECTOR



Wire side of female terminals

6. Start the engine

   Does the compressor and fans come on?

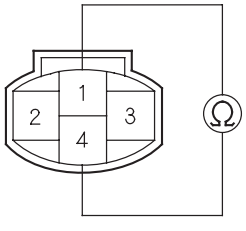
   YES—Go to step 7.

   NO—Check the connection of under-hood fuse/relay box connector H (18P) No. 3 terminal. If the connection is OK, replace the under-hood fuse/relay box (see page 22-72). ■

7. Disconnect the jumper wire, and turn the ignition switch OFF.

8. Check for continuity between the A/C pressure switch No. 1 and No. 4 terminals.

A/C PRESSURE SWITCH



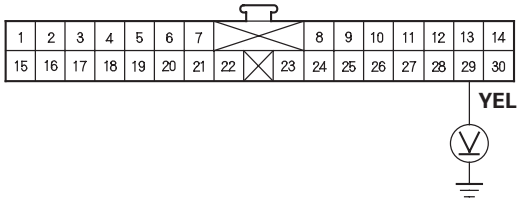
Is there continuity?

YES—Go to step 9.

NO—Go to step 18.

9. Reconnect the A/C pressure switch 4P connector.
10. Disconnect climate control unit 30P connector.
11. Turn the ignition switch ON (II).
12. Measure the voltage between the climate control unit 30P connector No. 29 terminal and body ground.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

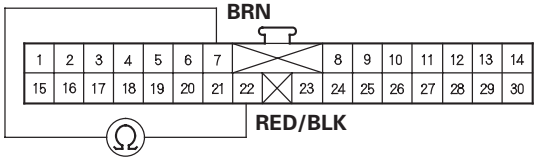
Is there 5 V or more?

YES—Go to step 13.

NO—Repair the open in the wire between the climate control unit and the A/C pressure switch. ■

13. Turn the ignition switch OFF.
14. Measure the evaporator temperature sensor resistance between the climate control unit 30P connector No. 7 and No. 22 terminals.

CLIMATE CONTROL UNIT 30P CONNECTOR



Wire side of female terminals

Is the resistance less than 24 kΩ ?

YES—Go to step 15.

NO—Test the evaporator temperature sensor (see page 21-53).

15. Reconnect the climate control unit 30P connector.
16. Turn the ignition switch ON (II).
17. Check that blower motor operates at all speeds.

Does the blower motor operate at all speeds?

YES—Check for loose wires or poor connections at the climate control unit 30P connector and at the A/C pressure switch 4P connector. If the connections are good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

NO—Repair the problem in the blower motor circuit. ■

(cont'd)

A/C Pressure Switch Circuit Troubleshooting (cont'd)

18. Check for proper A/C system pressure.

    Is the pressure within specifications?

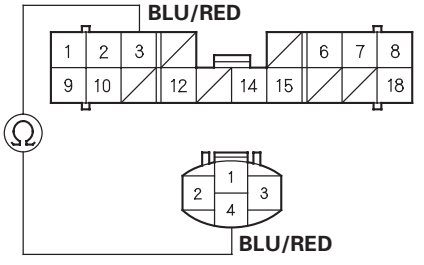
    YES—Replace the A/C pressure switch. ■

    NO—Repair the A/C pressure problem. ■

19. Disconnect under-hood relay box connector H (18P).

20. Check for continuity between the A/C pressure switch connector No. 4 terminal and under-hood relay box connector H (18P) No. 3 terminal.

UNDER-HOOD RELAY BOX CONNECTOR H (18P)
Wire side of female terminals



A/C PRESSURE SWITCH 4P CONNECTOR
Wire side of female terminals

Is there continuity?

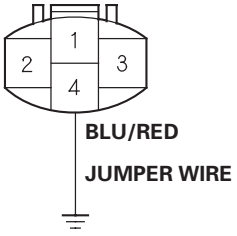
YES—Go to step 21.

NO—Repair open in the wire between the relay control module and the A/C pressure switch. ■

21. Reconnect under-hood relay box connector H (18P).

22. Connect the A/C pressure switch connector No. 4 terminal to body ground with a jumper wire.

A/C PRESSURE SWITCH 4P CONNECTOR



Wire side of female terminals

23. Start the engine.

    Do the A/C compressor and fans come on?

    YES—Replace the relay control module. ■

    NO—Check for loose wires or poor connections. If the connections are good, check the grounds. If the grounds are good, replace the relay control module. ■

In-car Temperature Sensor Test

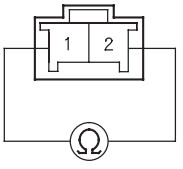
1. Remove the in-car temperature sensor (see page 21-133).

2. Test the in-car temperature sensor while holding it in front of the dashboard center vent.

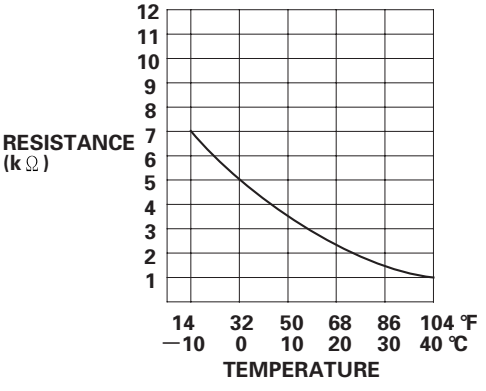
   - Measure the resistance with the system set to Max Cool.
   - Measure the resistance with the system set to Max Hot.

3. Compare the resistance reading between the No. 1 and No. 2 terminals of the in-car temperature sensor with the specifications shown in the graph; the resistance should be within the specifications.

IN-CAR TEMPERATURE SENSOR



Terminal side of male terminals

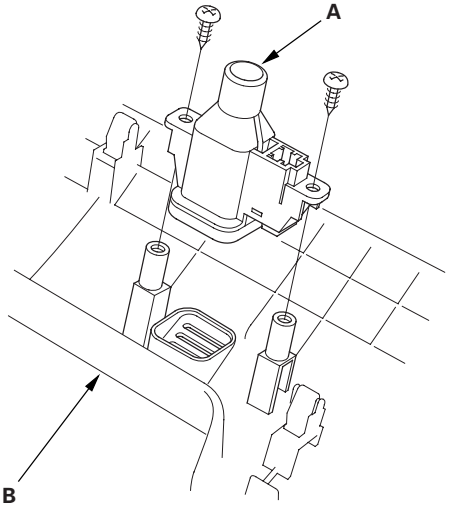


4. If the resistance is not as specified, replace the in-car temperature sensor (see page 21-133).

In-car Temperature Sensor Replacement

1. Remove the driver's dashboard lower cover (see page 20-83).

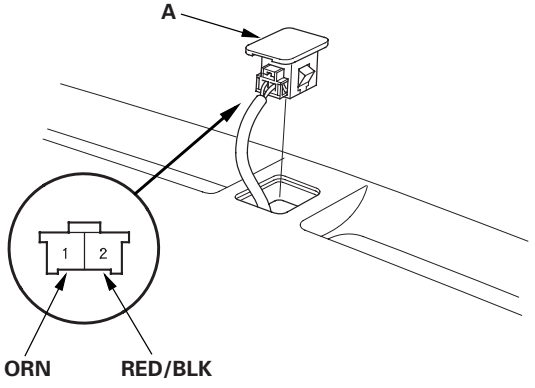
2. Remove the self-tapping screws and the in-car temperature sensor (A) from the driver's dashboard lower cover (B).



3. Install the sensor in the reverse order of removal. Be sure to connect the air hose securely.

Sunlight Sensor Test

1. Remove the sunlight sensor (A) from the dashboard.



2. Turn the ignition switch ON (II). Measure the voltage between the terminals with the (+) probe on the No. 1 terminal and the (−) probe on the No. 2 terminal with the connector connected.

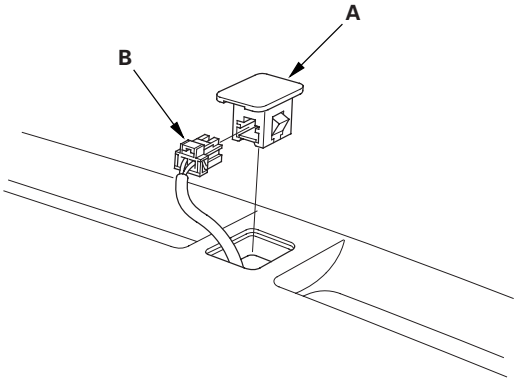
   NOTE: The voltage readings will not change under the light of a flashlight or a fluorescent lamp.

   Voltage should be:
   - 3.6—3.7 V or more with the sensor out of direct sunlight.
   - 3.3—3.5 V or less with the sensor in direct sunlight.

3. If the voltage is not as specified, replace the sunlight sensor (see page 21-134).

Sunlight Sensor Replacement

1. Remove the sunlight sensor (A) from the dashboard, then disconnect the connector (B). Be careful not to damage the sensor and the dashboard.



2. Install the sensor in the reverse order of removal.

Driver's Air Mix Control Motor Test

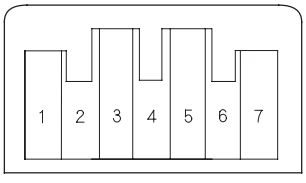
NOTE: Before testing, check for HVAC DTCs (see page 21-8).

1. Disconnect the 7P connector from the driver's air mix control motor.

   NOTICE
   Incorrectly applying power and ground to the driver's air mix control motor will damage it. Follow the instructions carefully.

2. Connect battery power to the No. 1 terminal of the driver's air mix control motor, and ground the No. 2 terminal; the driver's air mix control motor should run, and stop at Max Cool. If it doesn't, reverse the connections; the driver's air mix control motor should run, and stop at Max Hot. When the driver's air mix control motor stops running, disconnect battery power immediately.

DRIVER'S AIR MIX CONTROL MOTOR



3. If the driver's air mix control motor did not run in step 2, remove it, then check the driver's air mix control linkage and door for smooth movement.

   - If the linkage and door move smoothly, replace the driver's air mix control motor (see page 21-135).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the driver's air mix control motor runs smoothly, go to step 4.

4. Measure the resistance between the No. 5 and No. 7 terminals. It should be between 4.2 to 7.8 kΩ.

5. Reconnect the driver's air mix control motor 7P connector, then turn the ignition switch ON (II).

6. Using the backprobe set, measure the voltage between the No. 3 and No. 7 terminals.

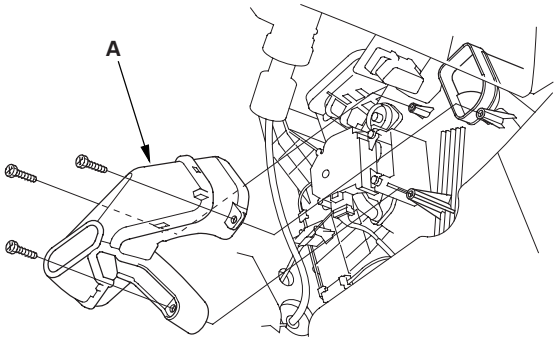
   Max Cool: About 0.5 V
   Max Hot: About 4.5 V

7. If either the resistance or voltage readings are not as specified, replace the driver's air mix control motor (see page 21-135).

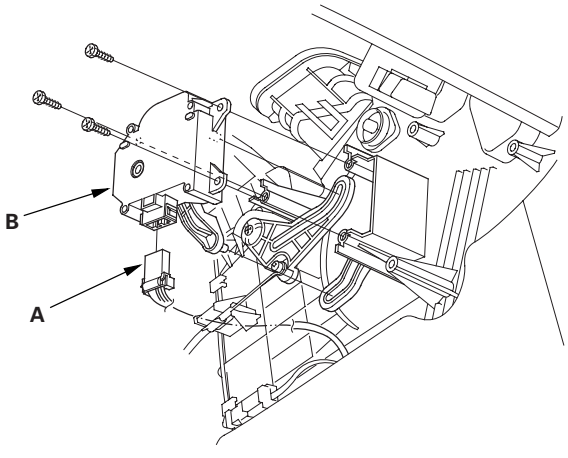
Driver's Air Mix Control Motor Replacement

1. Remove the driver's dashboard lower cover (see page 20-83).

2. Remove the self-tapping screws and the duct (A).



3. Disconnect the 7P connector (A) from the driver's air mix control motor (B). Remove the self-tapping screws and the driver's air mix control motor from the heater unit.



4. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

Passenger's Air Mix Control Motor Test

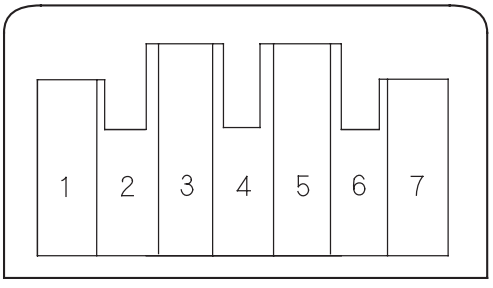
NOTE: Before testing, check for HVAC DTCs (see page 21-8).

1. Disconnect the 7P connector from the passenger's air mix control motor.

   NOTICE
   Incorrectly applying power and ground to the passenger's air mix control motor will damage it. Follow the instructions carefully.

2. Connect battery power to the No. 1 terminal of the passenger's air mix control motor, and ground the No. 2 terminal; the passenger's air mix control motor should run, and stop at Max Cool. If it doesn't, reverse the connections; the passenger's air mix control motor should run, and stop at Max Hot. When the passenger's air mix control motor stops running, disconnect battery power immediately.

PASSENGER'S AIR MIX CONTROL MOTOR



3. If the passenger's air mix control motor did not run in step 2, remove it, then check the passenger's air mix control linkage and door for smooth movement.

   - If the linkage and door move smoothly, replace the passenger's air mix control motor (see page 21-137).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the passenger's air mix control motor runs smoothly, go to step 4.

4. Measure the resistance between the No. 5 and No. 7 terminals. It should be between 4.2 to 7.8 kΩ.

5. Reconnect the passenger's air mix control motor 7P connector, then turn the ignition switch ON (II).

6. Using the backprobe set, measure the voltage between the No. 3 and No. 7 terminals.

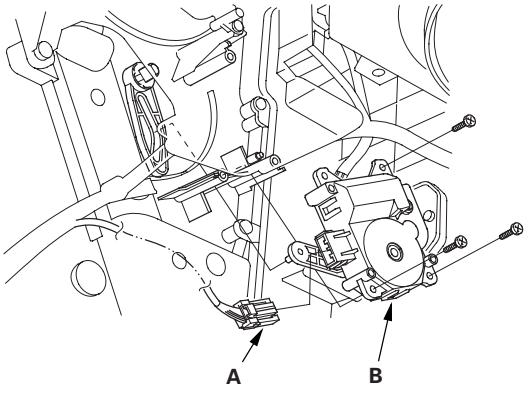
   Max Cool: About 1.5 V
   Max Hot: About 4.5 V

7. If either the resistance or voltage readings are not as specified, replace the passenger's air mix control motor (see page 21-137).

Passenger's Air Mix Control Motor Replacement

1. Open the glove box. Remove the damper and the glove box stop on each side, then let the glove box hang down (see page 20-85).

2. Disconnect the 7P connector (A) from the passenger's air mix control motor. Remove the self-tapping screws and the passenger's air mix control motor (B) from the heater unit.

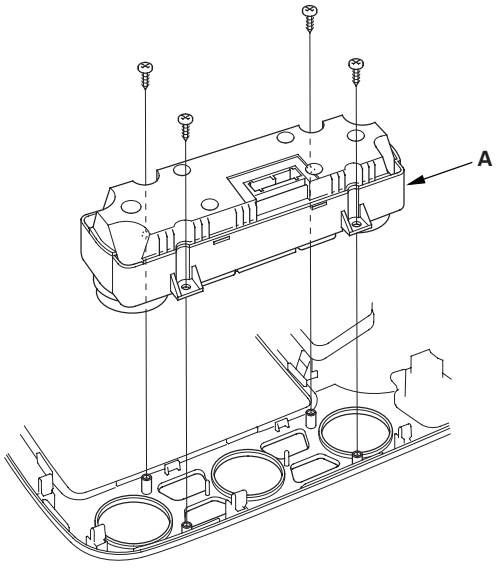


3. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

Climate Control Unit Removal/ Installation

1. Remove the instrument panel (see page 20-81).

2. Remove the self-tapping screws and the climate control unit (A).



3. Install the control unit in the reverse order of removal. After installation, operate the various functions to see whether works properly.

4. Run the self-diagnostic function to confirm that there are no problems in the system (see page 21-83).